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ABSTRACT

The personality characteristics of teachers in relation to their acceptance and rejection of the newer educational media were studied. The subjects of the study were 253 high school teachers at several high schools which had just been visited by the Wisconsin Audiovisual Education Demonstration (WAVED) mobile unit. The WAVED unit was designed to provide teachers with the services of various media professionals and to demonstrate the value of an adequate audiovisual media center. The teachers took an audiovisual attitude test and a personality trait inventory. The results of these tests were correlated with the amount of use the teacher made of the WAVED unit. An analysis of this data provided a personality profile of the average male and female acceptor and rejector of educational media. A bibliography and a collection of the materials used to gather data in the study are appended. (JY)

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A STUDY OF THE PERSONALITY CHARACTERISTICS OF THE ACCEPTOR AND THE REJECTOR OF THE NEWER EDUCATIONAL MEDIA AMONG SECONDARY TEACHERS OF WISCONSIN

by

Alfred D. Grant

A thesis submitted in partial fulfillment
of the requirements for the degree of
DOCTOR OF PHILOSOPHY
at the
UNIVERSITY OF WISCONSIN

1969

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DEDICATION

To my wife, Beth, and our
two children, Daniel and David

A STUDY OF THE PERSONALITY CHARACTERISTICS OF THE ACCEPTOR AND THE REJECTOR OF THE NEWER EDUCATIONAL MEDIA AMONG SECONDARY TEACHERS OF WISCONSIN

ALFRED D. GRANT

Under the Supervision of Professor Frederick A. White

This study explored certain personality characteristics of 253 high school teachers who were classified as acceptors and rejectors of the newer educational media. The study was limited to high school teachers located at seven consecutive school building sites visited by the Wisconsin Audiovisual Education Demonstration (WAVED), 1968-1969.

Null Hypothesis

There are no significant differences for 14 personality traits among male and female high school teachers classified as acceptors or rejectors of the newer educational media as measured by the Edwards Personal Preference Schedule.

Methods

1. The Kelley Audiovisual Attitude Scale was selected to determine the attitude posture of the respondents.

2. The Edwards Personal Preference Schedule was selected to measure the personality traits of the respondents. The Heterosexuality dimension was deleted because of the possible rejection of the entire Edwards scale.

3. A WAVED Utilization Scale was designed to determine the acceptor and rejector categories based on the teacher's utilization of the WAVED unit at each of the seven locations.

Conclusions

1. There were 78 rejectors, 63 average acceptors, and 112 acceptors of the newer educational media based upon the WAVED Utilization Scale.

2. Respondents at six of the location sites showed a positive mean change of attitude toward audiovisual media. This change of attitude might be attributed to the influence of the WAVED unit during its stay. The faculty of the seventh location showed a negative mean change of attitude toward audiovisual media.

3. There was a positive mean change of attitude toward audiovisual media for the 21-60 age groups. There was a negative mean attitude change for the 61-70 age group. The Wisconsin Audiovisual Demonstration seemed to be influential in the improvement of attitude towards audiovisual media for all age groups except the 61-70.

4. There was an over-all positive mean change of attitude for both males and females who responded to this research.

5. There was a higher number of acceptors than rejectors at those school sites located in the rural areas. There was a substantial number of both acceptors and rejectors in the larger metropolitan areas.

6. There were more acceptors than rejectors in the subject areas of English, foreign language, science, and history-social studies. There were more rejectors than acceptors in the subject area of math.

7. There was a negative mean attitude change towards audiovisual media for respondents with 36 or more years of teaching experience.

8. Male respondents to the Kelley Audiovisual Attitude Scale had a higher postattitude and change of attitude mean than did female respondents.

9. There was significance for certain personality traits among male and female acceptors and rejectors of the newer educational media. The null hypothesis was rejected for the following male acceptor traits: Intraception*, Dominance**, Change*, and Aggression**. The null hypothesis was rejected for the following female acceptor traits: Order**, Exhibition**, Autonomy*, and Succorance**. The null hypothesis was rejected for the following male rejector traits: Deference**, Affiliation**, Succorance**, and Nurturance**. The null hypothesis was rejected for the following female rejector traits: Affiliation**, Intraception**, Dominance**, and Nurturance**.

The t-test for determining the difference between the means for two groups (acceptors minus rejectors) was calculated for each personality characteristic. A two-tailed test was applied at the .05 and .01 level of significance.

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*.05
**.01

GRADUATE SCHOOL
AUG 11 1969

Dr. Frederick A. White

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

The Problem

Statement of the Problem. This study was undertaken to explore certain personality characteristics of high school teachers who might be classified as acceptors or rejectors of the newer educational media. The population was limited to high school teaching personnel located at seven consecutive school building sites visited by the Wisconsin Audio-visual Education Demonstration, 1968-1969. The seven consecutive sites were: Waukesha South Campus High School, Waukesha; Pius XI High School, Milwaukee; Horlick Senior High School, Racine; Memorial Senior High School, Beloit; Monona Grove Senior High School, Monona; Fennimore High School, Fennimore; and Tomah High School, Tomah. The Edwards Personal Preference Schedule was selected to measure certain personality traits of secondary teachers classified as acceptors or rejectors of the newer educational media.

Basic Objectives. The following were the basic objectives to be explored in this study:

1. To isolate the personality characteristics of teachers classified as definite acceptors or rejectors of the newer educational media, and to see if there appeared to be any definite trend of personality traits for the two groups.

2. To describe the personality traits of those teachers classified as acceptors and those classified as rejectors of the newer educational media.

3. To report on data concerned with background factors of the respondents.

4. To report on data concerned with pre, post, and change of audiovisual attitude as measured by the Kelley Audiovisual Attitude questionnaire for those teachers responding to this study.

Null Hypothesis. There are no significant differences, for 14 personality traits, among secondary teachers classified as acceptors or rejectors of the newer educational media as measured by the Edwards Personal Preference Schedule.

Need for the Study. Dr. F. A. White, Director of Educational Services, University Extension, University of Wisconsin, recalls a perfect example which focuses upon the internal characteristics of teachers in connection with the use of educational media. According to White, a 16 mm motion picture was produced by the Bureau of Audiovisual Instruction entitled, "Wisconsin Makes Its Laws." It was designed as a material to be integrated effectively into the Wisconsin elementary school curriculum. This film was well publicized, 30 minutes in length, in color, had a 50 cent rental charge, had supplemental study guides, there were multiple prints accessible to all Wisconsin elementary teachers through the BAVI film library. This topic was taught in every elementary school in Wisconsin. Therefore, the perfect external conditions existed for the effective classroom use of this film. However, this film, while heavily used as films go, was used by less than one-quarter of the elementary teachers of Wisconsin even under these most desirable external conditions. If this is so, there must be something else within individuals, perhaps related to personality, that prevents them from using an educational material expressly designed for a curriculum.

This researcher has also observed that under most desirable ideal conditions, i.e., adequate audiovisual equipment and materials, and production facilities plus staff to provide assistance, that certain teachers seem to frequently use media while others never seem to use media or facilities that are available to them. This again points to the fact that there seems to be inner characteristics within the individuals as they either accept or reject the newer educational media.

Over the past three years the Wisconsin Audiovisual Education Demonstration staff (see Chapter II for information on WAVED) had observed that their videotape recorder was not fully utilized by faculty who could have used it to improve their classroom teaching. For example, some of the speech teachers could have used videotape for self-evaluative techniques but did not use it even though it was available and they were provided with a trained operator. In the case of physical education teachers, some utilized videotape for analyzing performance techniques while others never used it. Again, under this most ideal condition, when audiovisual media and staff were available, there were many nonusers of this valuable tool. Both the acceptors and the rejectors of this innovation had the opportunity to use this device effectively. Are there different inner personality characteristics for these two groups?

The Wisconsin Audiovisual Education Demonstration unit was selected for this research study because it introduced for a period of two weeks, to a faculty of a secondary school, the most ideal audiovisual conditions exemplifying audiovisual staffing and educational media. Each faculty member at the school building site had equal opportunity to explore and utilize the audiovisual services of this demonstration unit. The records indicated that even under these ideal exemplary conditions some faculty members would not either visit or utilize this demonstration, while others would make very heavy use of it. Therefore, this unit was excellent for this study in classifying the acceptor and the rejector of the newer educational media, and to provide an opportunity to determine if there is a trend for certain personality traits among acceptors and rejectors of the newer educational media. It was conjectured that utilization of the WAVED unit by teachers at secondary school building sites would give a clear-cut picture of teachers classified as acceptors and as rejectors.

As far as this researcher can establish, little, if any, research has been devoted to the personality characteristics of teachers in relation to their acceptance and rejection of the newer educational media.

Definitions of Terms

Audiovisual Media, Audiovisual Materials, Audiovisual Technology, Instructional Media. Terms that are interchangeable in reference to a wide range of materials and devices needed to support instructional strategies, and they are considered to be less symbolic than individual words.

WAVED. An acronym referring to Wisconsin Audiovisual Education Demonstration, a federally funded project under a Title III grant in cooperation with 19 CESA agencies of Wisconsin.

CESA. An acronym referring to a Cooperative Educational Service Agency, an administrative agency under the State of Wisconsin, Department of Public Instruction.

Newer Educational Media. Includes hardware as — slide, filmstrip, opaque, overhead, and 16 mm and 8 mm projectors, phonograph, audio-tape recorder, television (open and closed-circuit), videotape recorder, individualized instruction - study carrels, programed text or machine, computer assisted instruction, and language laboratory. Software includes: slides, overhead transparencies, original transparency masters, audio-tape recordings, photomodifying, bulletin boards, dry mounting techniques, color lift transparencies, postermaking, laminating-preserving materials, videotape recording, producing study prints, 8" x 10" photographic prints, slide copywork, sign-making, chartexing, mapmaking, dubbing phonograph records to tape, closed-circuit television, duplicating materials (photo copying), creative artwork and cartooning for slides and transparencies, 8 mm filming, duplicating audio-tapes, and creative artwork for murals.

Acceptor of the Newer Educational Media. Refers to the professional teacher who consulted with the WAVED Media Specialist for the purpose of producing and utilizing the newer educational media beyond the "traditional" or "conventional" approach needed to meet teaching objectives. The acceptor attained a rating of 5 on the WAVED Utilization Rating Scale. He also would have visited the unit 1 to 8 times during WAVED's two-week stay. He produces and utilizes the more sophisticated audiovisual materials and equipment and consults with the professional audiovisual staff of WAVED.

Rejector of the Newer Educational Media. Refers to the professional teacher who did not visit, or utilize, the WAVED demonstration during its two-week stay at the school site. The rejector attained a rating of 1 (no use or visit) on the WAVED Utilization Rating Scale.

WAVED Media Specialist. Refers to the trained audiovisual specialist of the demonstration who consulted with the professional teachers and administrators in the effective selection, utilization and production of the newer audiovisual media.

Personality. Personality refers to the person as a psychological or unique whole, and as a dynamic organization of motives within the individual.[1]

Attitude. "Attitude is the combination of beliefs, valuations, and feelings with which people respond to given objects."[2] "The way one thinks, feels, acts is determined by a dominant attitude at that moment."[3]

Professional Teacher. Refers to the secondary classroom teacher who is employed in the school building site where WAVED is located.

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[1] J. W. Getzels and P. W. Jackson, "The Teacher's Personality and Characteristics" (Chicago: Handbook of Research on Teaching /Edited by N. L. Gage/, Rand McNally and Company, 1963), pp. 506-507.

[2] Cyril Sofer and Izabelle Menzies, Attitude Scaling (London: The Market Research Society, Inc., London, 1960), pp. 35-37.

[3] Ibid., p. 32.

School Building Site. Refers to the site selected for the WAVED demonstration, the WAVED units are then set up next to the building for a period of two weeks.

The remainder of this dissertation will include: a Review of the Literature; Personality and Measurement in Education; Background of the Wisconsin Audiovisual Education Demonstration Unit; Selecting and Pre-Testing the Research Instruments; Presentation of the Data and Analysis of Findings; and the Summary, Conclusions and Recommendations.

CHAPTER II

BACKGROUND OF THE WISCONSIN AUDIOVISUAL EDUCATION DEMONSTRATION UNIT

Introduction

This chapter will summarize the background information needed to understand the nature of the WAVED demonstration and its outreach throughout the State of Wisconsin over the years 1966-1969.

The WAVED demonstration was conceived as a project in 1965, for the express purpose of serving as a model educational media center which represents what should be an integral part of our school buildings of today. Dr. Frederick A. White, Director of Educational Services, University Extension, The University of Wisconsin, coordinated the efforts of 19 Cooperative Educational Service Agencies in Wisconsin in order to obtain a federal grant for this project.

The United States Office of Education, Title III of the Elementary-Secondary Education Act of 1965 (ESEA) funded this project which provided for a unit consisting of two mobile home type buildings equipped with the newer educational media (equipment and facilities). The unit was staffed by professional audiovisual specialists and technical para-professionals. The professional teacher having such facilities available would be able to consult with media specialists for the purpose of finding, designing, and producing and utilizing the newer educational media.

Each professional teacher at the school site had the opportunity to improve his instructional strategies by using the facilities of WAVED during its two-week stay.[1] There was no cost whatsoever to the individual teacher or school building for the services of WAVED, however there was provided, by the school site, a 220 volt electrical supply hookup to the demonstration unit for its electrical system.

The WAVED Procedure

An Exemplary WAVED Staff. The professional WAVED staff included: a Project Director, a Field Director, two professional Media Specialists, a Transparency-Photographic Technician, a Graphic Artist, and an Equipment Technician. There were secretarial and student clerical staff assisting in the bookkeeping and business transactions of the project.[2]

The Function of WAVED at the School Site. The Media Specialists were available to consult with those faculty members who desired to use the facilities of WAVED during its two-week stay. Many of the school site faculty had previsouly met with the advance Media Specialist six weeks prior to WAVED's arrival. During the advance preparation, working together, they established the type of teaching strategies and learning experiences necessary for units of study so that WAVED's facilities would be useful to them.

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[1] Hal Riehle, "An Attitude Change Study to Determine the Effectiveness of a University of Wisconsin Audiovisual Demonstration Program" (unpublished Doctor's thesis, The University of Wisconsin, Madison, Wisconsin, 1967), pp. 59-60.

[2] Ibid., p. 61.

WAVED's Operational Procedure. On Monday, six weeks prior to the arrival of WAVED at the school building site, the advance Media Specialist met with the school superintendent, school building site principal, and other specialists as electrician, audiovisual media coordinator of the school site. Pre-arrangements for demonstration location, electricity, and emphasis on the type of demonstration was discussed with these key individuals. The advance Media Specialist met with the school building site faculty on the same day for the purpose of acquainting faculty with the types of services offered during WAVED's stay. Along with this presentation, through 2" x 2" slides, the advance Media Specialist explained the type of research to be undertaken in conjunction with the evaluation of WAVED's effectiveness. At each of the seven consecutive schools he administered the Pre-Kelley Audiovisual Attitude Questionnaire. He also distributed the WAVED Initial Questionnaire and explained its purpose, emphasizing that it was a means of identifying and utilizing the types of media within units of study that might be undertaken at the time of WAVED's two-week stay. Faculty members were asked to meet with the advance Media Specialist during his two-week advance stay at the school building site. The advance Media Specialist was able to prepare teachers for effective utilization of devices and materials prior to the actual arrival of WAVED. He tried to prepare each faculty member for the unique experience that was about to happen to him. He also was sensitive to the audiovisual difficulties that seemed to trouble the faculty. This initial screening at the school building site assisted the WAVED staff in working with faculty upon arrival at the site.

While WAVED was at the school site, principals, curriculum supervisors, industrial training directors, school superintendents, university-college personnel, service clubs, school boards, and parent-teacher groups were invited to visit the demonstration.[3] Most outside visitors appeared to be impressed with the variety of instructional devices and materials that a classroom teacher and other teaching personnel might utilize to improve their instructional experiences.

The WAVED demonstration, though basically a demonstration of an audiovisual staff, is representative of what an audiovisual media center should include--a pleasant, efficient place with working conditions conducive for attracting and involving teaching personnel who are interested in the over-all improvement of instruction.

Summary

From this background on the WAVED demonstration the reader should now realize the importance of this demonstration unit in its outreach to selected school building sites and their faculties throughout Wisconsin.

Teachers had a marvelous opportunity to consult with the WAVED media staff for services in the designing, production, and utilization of newer educational media. The WAVED unit served as an excellent innovative demonstration that afforded this type of research on the personality characteristics of the acceptor and rejector.

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[3] *Ibid.*, p. 65.

CHAPTER III

REVIEW OF THE LITERATURE

Introduction

Much research and writing has been centered on the adoption process, the characteristics of innovative people, the rural sociologist's work on the concept of accepting and rejecting farm practices, and the external deterrents to the effective use of audiovisual media by classroom teachers. This chapter will report on research and writing done in the above areas.

External Deterrents to the Utilization of Media

Over the past years there has been much written on the deterrents or obstacles which seem to prevent the effective utilization of educational media. This section will report some of the deterrent studies and their findings.

Charles Hoban[1] suggested that the following were obstacles to the use of audiovisual materials:

1. materials are expensive;

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[1] Charles F. Hoban, "Obstacles to the Use of Audiovisual Materials," Audiovisual Materials of Instruction, Forty-Eighth Yearbook (Chicago: National Society for the Study of Education, Part I, University of Chicago Press, 1949), pp. 53-58.

2. it is difficult to obtain materials when they can be used at best advantage;
3. expensive equipment is required for materials to be projected;
4. equipment does require manual skill for the operation and technical skill for its maintenance;
5. buildings might need modification for the effective use of materials;
6. inadequate learning concepts; and
7. overcrowded curriculum.

Miller[2] used data processing techniques to identify those problems which kept teachers from using audiovisual media. He found 1,627 barriers encountered in 1,025 uses of audiovisual media. The most frequent barriers in descending order were:

1. seating arrangements,
2. screen placement,
3. condition of equipment,
4. electrical cords,
5. room accoustics,
6. lack of preparation time,
7. operation of equipment,
8. use of the screen,
9. focusing, and
10. noise.

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[2] Instructional Materials: Educational Media Technology, Review of Educational Research, loc. cit., p. 144.

E. J. Swineford[3] presented four obstacles which he considered were obstacles in the use of audiovisual materials. They were:

1. quality - variety of experiences,
2. teacher attitudes,
3. administrative provisions, and
4. emotional reaction to materials.

Hubbard[4] found that teachers at Syracuse University gave five important reasons for not using audiovisual materials and equipment. They were:

1. "classrooms are not equipped for using audiovisual materials, 37%";
2. "difficult to get the materials at the right time and place, 30%";
3. "college does not have a variety of materials to correlate with the curriculum, 27%";
4. "lack of adequate audiovisual budget, 22%"; and,
5. "lack of information of the sources of materials, 22%."

Hubbard[5] listed six least important deterrent responses; they were:

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[3] E. J. Swineford, "Obstacles in the Use of Audiovisuals," Educational Screen and Audiovisual Guide, vol. XXXVIII (January 1959), p. 19.

[4] Richard D. Hubbard, "A Study of the Reasons Given for the Limited Use of Certain Audiovisual Materials at Syracuse University" (unpublished Doctor's thesis, Syracuse University, Syracuse, New York, October 23, 1959), p. 79.

[5] Ibid., p. 79.

1. "equipment is so complicated that teachers hesitate to learn to use it, 48%";
2. "lack of administrative guidance and leadership, 45%";
3. "setting-up equipment and getting it ready is too much bother, 43%";
4. "lack of audiovisual coordinators, 43%";
5. "lack of training in using audiovisual materials, 40%"; and,
6. "lack of appreciation and understanding of audiovisual materials, 39%."

Cohen,[6] in his study of the utilization of audiovisual equipment and instructional materials under the most highly desirable conditions, reported the results of the NEA survey, "Audio-Visual Education in Urban School Districts, 1953-1954." This NEA survey reported the deterrents to the effective use of audiovisual equipment and materials considered basic by administrators, audiovisual specialists, and teachers. Deterrents were:

1. lack of interest was reported most often as an obstacle; due to
   a) availability - adaptable at appropriate time
   b) proper teacher qualification
   c) difficult to handle equipment
   d) available materials not suitable

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[6] Samuel Cohen, "A Study of the Utilization of Audiovisual Equipment and Instructional Materials Under Highly Desirable Conditions (unpublished Doctor's thesis, Teachers College, Columbia University, New York, 1956), pp. 5-10.

   e) budget size, amount - variety of equipment, physical facilities for using audiovisuals, and available full-time professional audiovisual director.
   f) lack of adequate pre-service and in-service audiovisual training.

2. Insufficient funding to support audiovisual programs which in turn restricts kinds and amounts of leadership, administrative organization, physical facilities, and equipment and materials that might be available for school districts.
3. Audiovisual materials and equipment are obsolete or too limited in amount and variety for instruction.
4. There are shortages of trained leadership in audiovisual instruction.
5. Inadequate administrative organization for audiovisual instruction. Lack of trained full-time audiovisual directors and lack of central coordination of district programs.
6. Boards of education, principals, communities, were not convinced of the value of audiovisual equipment and materials.
7. No adequate evaluative measure or criteria to evaluate audiovisual programs.

Paul Reed[7] indicated that one of the most frequently stated obstacles affecting the increased use of audiovisual materials was cost. Reed felt that one basic obstacle to the use of audiovisual materials was - attitude toward textbooks, especially the way in which textbooks are used and to what extent audiovisual materials will be used.

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[7] Paul C. Reed, "The Key to Greater Use of Audiovisual Materials," Educational Screen, vol. 35, no. 5 (December 1956), pp. 10-11.

Harold Hailer[8] reported the reasons which limited or prevented the use of audiovisual materials in relation to the expressed wants of the faculty and the services offered by the Campus Audiovisual Service for the faculty of Letters and Sciences at the University of Wisconsin. They were:

1. suitable materials were not available;
2. audiovisual materials were not needed;
3. inadequate room facilities;
4. no time for preparation;
5. budgetary limitations; and
6. lack of information and disinterest.

Hyer[9] investigated possible deterrents to teacher use of motion pictures within a school system where films, equipment and facilities were provided. The deterrents were: (by order of importance)

1. "Can't get films when needed."
2. "Do not feel films are suitable in content."
3. "Cannot project satisfactorily in own classroom."
4. "Projection room isn't available when needed."
5. "There isn't sufficient class time."

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[8] Harold H. Hailer, "A Study of the Role of Campus AV Services Center in Providing Audiovisual Materials, For the Faculty of Letters and Sciences at the University of Wisconsin" (unpublished Doctor's thesis, The University of Wisconsin, Madison, Wisconsin, 1955), p. 89.

[9] Anno Hyer, "A Study of Possible Deterrents to the Use of Motion Pictures Within a School System Where Films and Facilities For Use Were Provided" (Bloomington, Indiana: Thesis Abstract Series, Studies in Education, School of Education, Indiana University, No. 4, 1953), p. 172.

According to Hyer,[10] "Teacher inertia seemed to be one of the outstanding deterrents to film use in Rochester." This teacher inertia might be overcome if the following conditions are met: (1) make it easy for teachers to use materials; (2) provide films for correlation with the curriculum in abundance; (3) to challenge the teachers to select and use them; (4) increase the expectancy among the teachers that films will be used.

Miller[11] expressed several barriers to the optimum use of media. They were:

1. The cultural lag - meaning the development and utilization of the newer techniques requires a shift from old habits to new approaches.
2. Schools are not being designed for convenient and effective use of newer visual techniques.
3. Resistance to visual material is due to the trouble involved in darkening rooms, not enough projectors, special arrangements, projection equipment tends to be noisy, heavy, costly, and complicated.
4. Hite studied 4,000 elementary-secondary school teachers and 500 principals in the State of Washington. He concluded that lack of materials was an important factor in restricting the use of educational film.

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[10] Ibid., p. 175.

[11] Neal E. Miller, "Graphic Communication and the Crisis in Education" (Washington, D.C.: Audiovisual Communication Review, Department of Audiovisual Instruction, 1957), pp. 6-31.

5. Teachers fail to use graphic materials because of the problem in discovering and procuring them.
6. "Teachers say they haven't time for graphic materials; there is already too much to cover." The overcrowded curriculum is the major influencing problem.
7. Some teachers have a negative attitude toward graphic materials, especially if a bad experience occurs.
8. There are some teachers who may be insecure and possess a fear of being replaced by the film. Vernon (1946), found that it was the poorer teachers who failed to see any advantage in the use of motion pictures. The insecurity factor may be a source of resistance.
9. It seems that teachers are somewhat egocentric ham actors, they like to hear the sound of their own voice and find it difficult to step aside for another competitive medium.
10. There exists the idea that pictorial materials are somehow an inferior medium and are only needed by the poor teacher or low grade student. Vernon (1946), Meierhenry (1952), Nerden (1954), found that better teachers get better results from films and the more intelligent student learns more from this medium.
11. Both students and teachers tend to possess the attitude that media is for pleasant diversion rather than learning.[12]

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[12] *Ibid.*, pp. 35-38.

12. The lack of adequate budget is most commonly mentioned as a deterrent to improved instructional practice. Administrators and teachers seem to indicate that money would buy projectors, films, maps, and other media.[13] Yet, Nerden (1954) found a biology teacher who professed that motion pictures were important in the learning process, however this same teacher failed to use a single film during the year even though adequate equipment was available to him.[14]

The Personal Characteristics of Acceptors

In the preceding section the situational factors of the use and nonuse of educational media were discussed. It is the intent of this researcher to report on some of the personal characteristics which may relate to the acceptor of the newer educational media.

Everett Rogers, a researcher in the adoption process at Michigan State University, has verbally described an innovator:

> Innovators are adventuresome individuals; they desire the hazardous, the rash, the avant-garde, and the risky. They must also have the ability to understand and use complex technical information. In order to absorb the loss of unprofitable innovation, they must have control of substantial resources.[15]

The propensity towards adventure releases the innovator from the local circle of peers placing them into a more cosmopolite relationship.

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[13] Ibid., p. 52.

[14] Ibid., p. 56.

[15] Everett Rogers, "What Are Innovators Like," Change Processes in the Public Schools (The Center for the Advanced Study of Educational Administration, The University of Oregon, February, 1965), pp. 57-58.

They place themselves into cliques and then spread new ideas to others.[16] Rogers describes the laggard as being localistic, many are classified as being isolationists. The laggard also refers to the past and interacts with people who seem to hold similar traditional values. He is suspicious of the innovator, innovations, and change agents.

Rogers[17] summarized the following characteristics of innovators:

1. innovators are generally young;
2. they have a relatively high social status, higher degree of education, prestige ratings, and income;
3. they seek impersonal and cosmopolite sources of information, i.e. mass media;
4. they are cosmopolite and form cliques and belong to formal organizations involving other innovators;
5. innovators are opinion leaders, they bring other peers to adopt; and
6. innovators are considered to be deviant in the eyes of their peers and themselves.

Jenkins[18] reported the key characteristics of innovative and non-innovative teachers:

1. Innovative teachers appear to be clearly superior to non-innovative teachers in originality and identional fluency.

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[16] Ibid., p. 58.

[17] Ibid., pp. 58-59.

[18] John M. Jenkins, "A Study of the Innovative Characteristics Associated with Innovative Behavior in Teachers" (unpublished Doctor's thesis, The University of Miami, Coral Gables, Florida, January, 1967), pp. 174-175.

2. Innovative teachers provide a superior knowledge of the principles of good educational practices.
3. Characteristics which are identified with creativity in art, science, and research can be included for the teaching field. Creativity intersects occupational and professional fields.
4. Innovative teachers appear to be more dominant, adventureous, radical and disorderly than noninnovative teachers.
5. Innovative teachers seem to possess more general intelligence and broader intellectual backgrounds.
6. Innovative teachers appear to be more flexible and complex.
7. An egoistic characteristic appears to be part of the individual's innovative behavior.
8. The previous undergraduate grades of individuals remains ambiguous as a predictor of potentially innovative teachers.
9. The total number of years of teaching experience does not seem to discriminate significantly between the innovative and noninnovative teacheer.

Hoban[19] states the following about innovators and agents of change:

> It may be hypothesized that all innovators and agents of change tend to be what Eric Hoffer calls "true believers," orientated toward a better future of mankind, an improvement of the human condition of everyone; and that one of the most important aspects of instructional technology is the inherent expectancy of educational improvement shared by its advocates. The corollary is that instructional technology fails or disappoints when its implementation falls into the hands of

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[19] Charles F. Hoban, "Man, Ritual, The Establishment and Instructional Technology," Educational Technology, Vol. VIII, No. 20 (October 30, 1968), p. 8.

> skeptics and infidels whose habituated classroom rituals have attained doctrinal significance, and consequently whose expectancy of ritualistic change is negative.

Dr. Gephart,[20] Director of Phi Delta Kappa's Research Center, listed the following characteristics of innovative teachers:

1. They are sensitive to shortcomings or inadequacies of the status quo, and eager to make changes.
2. They are motivated to locate and implement improved methods and materials, for pupils and their own job satisfaction.
3. They possess self-confidence and have initiative to seek improvements.
4. They are able to deal effectively with colleagues and administrators in being able to promote interactions as innovators will require.
5. They are free from rigid structure.
6. They are tolerant of anxiety set forth by change.
7. They are aware and exhibit a willingness to work within colleagues' value systems.
8. They are aware and able to communicate within a power structure.
9. They are not authoritarian in the classroom.
10. They encourage pupil achievement.
11. They accept and are positive in their relationships.
12. They are open to new professional experiences.

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[20] Marcia Conlin, "Innovation - An Interview with William Gephart," SRIS Quarterly, Phi Delta Kappa, vol. 1, no. 2 (Spring 1968), pp. 2-3.

13. They are able to use clues, hunches and cognitive perceptions.
14. They use alternative strategies and instructional methods.
15. They think positively in terms of innovative possibilities.
16. They are cognizant and sensitive to student reaction and they have a wide range of observational skills.

Horace Hartsell[21] expressed what he feels as being some of the conditions which reflect foot dragging problems among teachers. They are:

1. Extreme possessiveness - my school, my program, my media center, my faculty.
2. Oversensitiveness - because someone criticized our effort or because we did not get the recognition.
3. Defensiveness - because the least criticism may be taken as a personal insult.
4. Resistance to change - because we like what we know how to do best.
5. Judging ourselves by our motives and others by their actions.

"Research indicates that creative people very often appear inconsiderate toward those around them, placing more value on the task at hand than on the social amenities; while, courage almost universally appears in descriptions of the creative person."[22]

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[21] Horace G. Hartsell, "Are You a Part of the Problem or a Part of the Answer," Audiovisual Instruction, vol. 13, no. 4 (April 1968), p. 440.

[22] Jenkins, op. cit., p. 9.

According to Leuba,[23] many people conform to the traditional way of thinking, and desire to live with smooth running habits, unless an emergency causes the traditional way to be unacceptable. The scientist, the inventor, and the reformer may always be discontented with the present habits and circumstances and will continue to try to improve upon them. Inventors seem to possess a certain tenacity, persistence, and the willingness to continue on a trial and error basis even though failure occurs. Edison's assistant described Edison's inventiveness as follows: "It is [Edison's] working capacity and his extraordinary patience that were important parts of his genius."[24] The imaginative thinker is dissatisfied with things as they are. He is less willing to accept conventional solutions and he has a tendency to question because he has a reservoir of past meaningful experiences that are different than most other people who are working in similar situations.

Leuba[25] indicates what he considers as the characteristics of imaginative people. They are:

1. sensitive to problems - they are capable of identifying problems where others are unconcerned about them;
2. capable of creating a large number of novel or new ideas per unit of time - this is known as ideational fluency;
3. flexible in their approaches, and are able to change their attitudes and sets; and

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[23] Clarence J. Leuba, Man: A General Psychology (New York: Holt, Rinehart and Winston, 1961), pp. 429-430.

[24] Ibid., p. 431.

[25] Ibid., pp. 434-435.

4. capable of making an analysis and synthesis of complex ideas.

In a speech given by Dr. Marshall E. Dimock,[26] at the University of Wisconsin, Department of Educational Administration, Dr. Dimock gave what he felt were some of the most common characteristics of the creative person. They were:

1. he is imaginative;
2. he easily makes interrelationships between various concepts;
3. he is dynamic;
4. he is a doer;
5. he goes ahead and does something; and
6. he takes a risk.

Matthew Miles[27] indicated the following personality characteristics of innovative persons:

1. The strong benevolent person often finds himself in important and central roles associated with utopia change efforts.
2. Intelligence and verbal ability appears to be important.
3. They are more individualistic and creative, and less bound to local group norms.
4. They enlist support of others, overcome resistance, have authenticity, and enthusiasm for innovative enterprise.
5. They are rebellious, overly idealistic, alienated, and emotionally unstable.

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[26] Marshall E. Dimock, Speech, Seminar, Supervision of Instruction, Department of Educational Administration, The University of Wisconsin, July 1968.

[27] Matthew Miles, Innovation in Education (New York: Teachers College Press, Teachers College, Columbia University, 1961), p. 642.

Adoption - Acceptance or Rejection of Innovations in Rural Sociology and Education

There have been numerous studies over the years in connection with the diffusion and adoption of farm practices and in other specialized areas such as medicine, drugs, and education. The theories expounded by experts in the diffusion and adoption processes indicate that their findings could be applied to other fields. The following section will present some of the research and writing concerned with the adoption and diffusion processes. The terms acceptance and rejection, or acceptor - rejector, are commonly used by experts in talking about the adoption of various practices. These terms will be used by this researcher in describing the acceptor and the rejector of the newer educational media.

The field of rural sociology has been quite important in the study of the diffusion and adoption of innovations, especially concerning farm practices. Everett Rogers[28] has indicated five adopter categories based on innovativeness: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) the laggards. Innovativeness is the degree to which an individual is relatively early in the adoption of new ideas when compared to others in the social system. There remains a wide variance among the adopter categories for individuals. These stages of adoption are based on psychological learning theories, social psychology, and empirical research. Similar adopter categories may be found in the diffusion and adoption of innovations in the fields of medicine and education.[29]

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[28] Everett Rogers, "The Adoption Process - Part II," The Journal of Cooperative Extension, vol. 1, no. 2 (Summer 1963), p. 70.

Beal and Butler[30] seem to indicate that the diffusion process is a way in which people accept new ideas, a series of complex acts or a mental process. The following represent the established stages in which a person goes through this mental process: awareness, interest, evaluation, trial and adoption stages. Individuals transgress these stages at different rates depending upon the practice itself and its complexity. The adoption period refers to the length of time required to transgress from awareness to adoption. The rate of acceptance or adoption of an innovation is dependent upon factors such as: recognized need, amount of change involved, external conditions which affect the need and ease of making a change, i.e. weather, disease and insects, and economical factors affecting cost and returns from the practice. It has been found by studies that some individuals adopt a practice earlier than others. The adoption of certain sprays oftentimes was achieved by innovators within the same year that they became aware of them, while the laggard required ten years to transgress through the adoption process.[31] Similar adopter categories may be found in the diffusion and adoption of medical drugs and educational innovations.

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[29] Everett Rogers, "The Adoption Process - Part I," *The Journal of Cooperative Extension*, vol. 1, no. 1 (Spring 1963), p. 17.

[30] George M. Beal and Joe M. Butler, "The Diffusion Process" (Ames, Iowa: Special Report no. 18, reprint Cooperative Extension Service, Iowa State University of Science and Technology, November 1962), p. 2.

[31] Rogers, [illegible]. *cit*., pp. 80-81.

Richard Carlson,[32] in a seminar report, "Barriers to Change in Public Schools," reported that Paul Mort found that "it takes fifty-years for the complete diffusion of an educational innovation which is destined to be fully accepted. The findings of over 100 studies, dealing with the rate of adoption of educational innovations, concludes that "school systems that are first to adopt educational innovations spend the most money per child and those last to adopt educational innovations spend the least amount of money per child."[33]

Henry Brickell[34] seemed to indicate that the decision to initiate change is not significantly affected by research reports, speeches, articles, or other types of formal presentations. A change factor does develop when there is informal conversation between administrators and participants in a new instructional setting. It was also shown that if there were visits to new programs similar to an existing school program, the possibility of change increased. Changes can be introduced despite teacher apathy and feelings of inadequacy.

Ralph Huber[35] studied factors involved with the diffusion of high school language laboratories within 70 school systems of the United States.

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[32] Richard Carlson, "Barriers to Change in Public Schools" (Seminar Paper, The University of Oregon, Department of Health, Education and Welfare, U.S. Office of Education, ERIC Microfiche Ea 000714, February, 1965), p. 3.

[33] Ibid., p. 7.

[34] Loran Twyford, "Research Abstracts" (Washington, D.C.: Communications Review, vol. 10, no. 2, March-April 1962), p. 124.

[35] Allen J. Klingenberg, "A Study of Selected Administrative Behaviors Among Administrators From Innovative and Non-Innovative Public School Districts" (Lansing, Michigan: Final Report, Michigan State Department of Public Instruction, Lansing, Michigan, May 1967), /ERIC Microfiche ED 014-128/ p. 30.

He found that the majority of initiations for such facilities were made by teachers.

Miles[36] indicated that there are substantial reasons why persons fail to adopt innovations. They were: inadequate planning, insufficient attention to the preparation of teachers in learning how to make changes, lack of commitment by teachers and community, and lack of necessary resources. Other factors of rejection are: sheer ignorance, lack of logical material, lack of psychological compellingness, and direct experience with the innovation. "Phenotypical listing modes of rejection may include default, maintenance of the status quo, appeal to societal norms, substitution of alternate practices, innovation of others' attitudes, and use of erroneous logic."

Eleanor Godfrey[37] discovered

> no standard or typical channels for influencing change. School boards and parents were not influential. Teacher requests, demonstrations, and observations of operating programs proved most effective. Observations were more effective in influencing use than technical reports and papers at professional meetings, although the latter had some importance. Reasons for non-adoption of a new medium were (a) more evidence of the value of the medium was needed, (b) alternative methods were as good, (c) the new medium was too expensive for what could be achieved, and (d) few teachers were trained to use the technique.

Godfrey's research also seemed to support the idea that newer techniques are adopted most readily in "complex societies with expanding populations" and that the greatest barrier to new media may be in the small, stable district with its restricted curriculum.[38]

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[36] Miles, op. cit., pp. 659-660.

[37] Review of Educational Research, op. cit., p. 143.

[38] Ibid., p. 143.

Metzler[39] indicated that the barrier which he thinks will hinder the growth of technology in the future years are: (a) collective negotiations in education relative to educational technology, (b) teacher demands for additional pay for their skills together with decreased teaching time, (c) teacher residual rights in video-taping of courses, (d) teacher organizations' demands for the certification of new positions created by the new technology, (e) propaganda mileage to be gained by teachers insisting on computer programing, (f) knowledge that costs will affect adoption, and (g) disputes in budgeting the newer technology.

Finn[40] considered three sociological barriers to the acceptance of innovation. They are:

1. resistance to innovation;
2. too much novelty; and
3. too much change.

Finn also points out that educational innovation is not very rewarding to the individual. In fact there is a tendency for innovators to be punished. This becomes a deterrent to effective educational innovation.

Edgar Dale[41] provided four reasons for the "lag" in the acceptance of innovations in education. They are:

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[39] Ibid., p. 145.

[40] James D. Finn, "Technological Innovation in Education," Audio-visual Instruction, vol. 5, no. 7 (September 1960), pp. 222-226.

[41] Edgar Dale, "Impact of New Media on the Secondary School Curriculum - U.S.A.," The Yearbook of Education /Edited by George Bereday and Joseph Lauwerys/ (New York, New York Columbia University, 1958), pp. 315-316.

1. a lag in communication caused by an unwillingness to risk the possibilities of failure;
2. a general lack of training;
3. a lack of sophistication by the individual teachers; and
4. little attempt to integrate instructional materials within courses of study.

Hoban[42] remarked on the classroom teacher ritual:

> Any sudden or substantial reduction of dominance status and/or domain of activities of the classroom teacher, any major change in the interpersonal teacher - student communication situation, or any systematic attempt to scientize and rationalize the intuitively determined interaction patterns of the teacher is likely to elicit at least some teacher hostility and resistance. The attitude of the classroom teacher toward any instructional innovation - technology or otherwise is of paramount importance. While trial or adoption of innovations may be formalized at the federal, state, or community levels of control, it is in the individual school and individual classroom that the transaction occurs functionally (or dysfunctionally).

Miles[43] indicated that innovations which are difficult to operate, that require extra administrative talent, that are disruptive to the local system, and that are puzzling or threatening technically tend to diffuse slowly. The classroom use of technological innovations depends on the following types of implementation factors: the availability of the device, ease of use, working condition of the equipment, necessary authorization from the local organization, and the skill of the operator. There will be rapid diffusion if there is an awareness of the need to have a supportive built-in implementation scheme for the innovation.

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[42] Charles F. Hoban, op. cit., p. 6.

[43] Matthew Miles, op. cit., p. 637.

A training activity is the key to better diffusion if there is no monetary cost involved.

Summary

The literature seems to emphasize those external factors which have a bearing upon the use or nonuse of educational media. This exploratory study will concern itself with the inner personality factors which may deter a person from the utilization of the newer educational media. We may learn how to predict if a teacher will be an acceptor or a rejector of the newer educational media by studying his personality traits.

CHAPTER IV

BACKGROUND AND DEFINITION

Since this study is centered upon the personality characteristics of teachers who are classified as acceptors and rejectors of the newer educational media, it is appropriate to report on personality and how personality instruments have been used in various educational situations.

In 1937 Gordon Allport reported at least 50 meanings that may be attached to the word "personality," three of these are: first, "personality is the appearance (even false appearance) of the individual as socially perceived," secondly, "personality is the role or function an individual has in a group," and thirdly, personality refers to the person as a psychological or unique whole, and as such, refers to a dynamic organization of motives within the individual.[1] Definitions of personality are commonly contradictory and observations connected to one definition will contradict observations based on another definition.[2]

While the study of personality was not formalized until the 1930's, the work of Gardner Murphy, Friedrick Jensen, Gordon Allport and Henry A. Murray were highlighted from the late 1800's to the 1930's.[3]

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[1] N. L. Gage (ed.), Handbook of Research on Teaching (Chicago: Rand McNally and Company, 1963), pp. 506-507.

[2] Ibid., p. 574.

[3] Edgar F. Borgatta and William W. Lambert, Handbook of Personality Theory and Research (Chicago: Rand McNally and Company, 1968), p. 73.

Changeability of Personality

The following represents general statements concerning personality changeability as reported in the research of Bloom and others:

> For most personal characteristics, changes occur at differential rather than at uniform rates. For each stable characteristic there is usually a period of relatively rapid growth as well as periods of relatively slow growth. Although it is not invariably true, the period of most rapid growth is likely to be in the early years and this is then followed by periods of less and less rapid growth.[4]

Personality Characteristics of Creative Individuals

It has been man's attempt, from time immemorial, to try and understand what motivates an individual to create. What is there about his personality makeup that makes him different from other individuals? Over the years empirical research seems to indicate the following about the personality characteristics of creative individuals:

1. He is an achieving person.
2. He is motivated by a need of order.
3. He has a need for curiosity.
4. He is self-assertive, dominant, aggressive, self-sufficient, and he leads and possesses initiative.
5. He rejects repression, is less inhibited, is less formal and less conventional. He may be unconcerned or radical.
6. He has persistence of motive, liking and capacity for work, self-discipline, perseverance, high energy-output, and is thorough.

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[4] Edgar F. Borgatta and William W. Lambert, op. cit., p. 721.

7. He is independent and autonomous.
8. He is constructively critical, less contented and dissatisfied.
9. He is widely informed and has wide ranging interests.
10. He is versatile.
11. He is open to feelings and emotions. For him feeling is more important than thinking. He is more subjective and he possesses vitality and enthusiasm.
12. He is aesthetic in his judgment and is value oriented.
13. His economic values are low.
14. He possesses freer expression of what has been described as feminine interests.
15. He has little interest in interpersonal and social relationships.
16. He is emotionally unstable but he is capable of using his instability effectively. He is not well adjusted by psychological definition but he is adjusted in the broader sense of being socially useful and happy in his work.
17. He sees himself as creative.
18. He is intuitive and emphatic.[5]

Teacher Personality and Research

Ultimately the results of teacher personality research becomes a factor in assessing teacher effectiveness. The findings of teacher personality studies are important in problems of selection and prediction, and questions arise such as: What are we selecting? What are we predicting? How does one define the effective teacher in some distinctive and characteristic way?[6]

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[5] Edgar F. Borgatta and William W. Lambert, op. cit., pp. 927-930.

There were over 1,000 studies done on the topic of teacher personality during the pre-1950's, and an estimated 800 studies done from 1950 to the present.[7]

In his research on teacher attitude, Leeds,[8] using the popular "Minnesota Teacher Attitude Inventory," seemed to find that teacher-pupil relations in the classroom had some relationship to the kinds of attitudes the teachers showed.

Roccio and Kearney[9] examined the relationship between the MTAI score and the number of failing grades which secondary teachers give to pupils. They found that:

> The high school teacher with undesirable teacher-pupil relations, who creates an atmosphere of fear and tension, and thinks in terms of the subject matter to be covered rather than in terms of what the pupils need, feel, know, and can do, is more likely to fail students than a teacher who is able to maintain harmonious relations with his pupils and who is interested in pupils as pupils.

The MTAI scale has probably been the most often used inventory in the measuring of teachers' attitudes toward teaching.

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[6] N. L. Gage, *op. cit.*, p. 575.

[7] *Ibid.*, p. 506.

[8] *Ibid.*, p. 508.

[9] *Ibid.*, p. 513.

Gowan,[10] using the Kuder Preference Record, found teachers to be less interested in the Mechanical, Computational, Scientific and Clerical dimensions, and significantly more interested in the Social Service dimension.

The Minnesota Multiphasic Personality Inventory (MMPI) has been extensively used among entering education students so that personality needs might be looked at more closely. However, the MMPI has not been used widely in predicting teacher success.

Gowan,[11] using the K Scale of the MMPI, found that a "high K individual as tending to be responsible, conscientious, conforming, controlled and friendly, with a strong ego, and good performance in interpersonal relations. He thinks well of others, as he tends to see the best in everyone, himself included.

Michaelis,[12] using the MMPI with women student teachers, found that none of the (MMPI) scales were significantly related to the rated success of university graduate students enrolled in elementary student teaching.

The 225 forced choice Edwards Personal Preference Schedule (EPPS) attempts to assess the relative strength of 15 manifest needs as discovered by Murray.

Jackson and Guba,[13] using the EPPS, found that there were significant differences for Deference and Heterosexuality dimensions among all teacher groups. Teachers, excepting the male elementary subgroup, scored significantly higher than the liberal arts normative group on Order and Endurance but lower on Exhibition. Guba and Jackson indicated that these five needs seem to be more or less typical of teachers in general.

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[10] Ibid., pp. 527-528.

[11] Ibid., p. 541.

[12] Ibid., p. 545.

[13] Ibid., p. 546.

Guba, Jackson and Bidwell[14] used the EPPS in a study of teacher trainees. They compared teacher trainees trained at a state university, a private teachers college, a Southern Negro university, and a private university with the liberal arts norms for the EPPS. Findings showed that students in a professional teachers college displayed personality dimensions resembling practicing professionals far more than did education students in a multi-purpose institution.

Sheldon, Coale, and Coople[15] obtained EPPS data from students with high and low scores on a series of scales such as the MTAI that seem to be helpful in selecting teachers and potential teacher candidates. They found that by using six EPPS dimensions (Affiliation, Nurturance, Aggression, Dominance, Succorance, and Abasement) the following: persons high on "warm teacher scales" (potentially good teachers) had high scores on Affiliation and Dominance and significantly low scores on Aggression, Succorance and Abasement than did those low on the warm teacher scores.

> The direction of the significant differences found in this study will not be surprising to those familiar with public education. It would be expected that friendly teachers and teacher candidates when compared to unfriendly ones would...

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[14] Ibid., p. 546.

[15] Ibid., p. 547.

> have a higher need for affiliation, and a lower need for aggression, succorance and abasement (Sheldon, Coole, and Copple, 1959, pp. 38-39).

Clark,[16] using the Guilford - Martin Inventory, found that teachers were above average in Objectivity, Agreeableness, and Cooperativeness, were less introversive in their thinking and had fewer signs of Depression and Cycloid Disposition, and had lower scores on General Activity and Ascendance - Submission than the normative group.

Lamke,[17] using _Cantell's Sixteen Personality Factor Questionnaire_, compared the scores of good teachers and poor teachers as rated by their principals and two other observers. Good teachers were above average and poor teachers were below average on Cantell's F scale (Surgency - Desurgency) and H scale (Parnica - versus - Threctia). The F scale shows that good teachers are usually more talkative, cheerful, placid, frank, and quick. The H scale shows that good teachers are gregarious, adventurous, frivolous, emotionally responsive, strong artistically, and interested in the opposite sex.

Ryan's[18] Teacher Characteristic Study was the single most extensive study involving 6,000 teachers in 1,700 schools in 450 school systems. The Ryan results should enable school systems to identify teacher characteristics similar to those important and desirable for their particular system. Another contribution would be its benefit to teacher education institutions in allowing them to better understand teacher characteristics and their associated conditions. This should improve candidate selection for teaching and improve courses and curricula. Three patterns of teacher behavior developed from this study are:

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[16] _Ibid._, p. 547.

[17] _Ibid._, p. 551.

[18] _Ibid._, pp. 566-567.

1. "Pattern Xo - warm, understanding, friendly versus aloof, egocentric, restricted...."
2. "Pattern Yo - responsible, businesslike, systematic versus dull, routine...."
3. "Pattern Zo - stimulating, imaginative, surgent versus dull, routine...."[19]

Some of the Projective Test Techniques that have been utilized for the purpose of analyzing teacher personality are: The Rorschach; the Murray Thematic Apperception Test; Word Association and Sentence Completion Method; and Draw-A-Teacher Test.

It is significant to note that many of the research studies dealing with the personality and attitude of teachers and their effectiveness were accomplished among populations of incoming education students and student teachers.

Personality and Teacher Selection

"Everything that we know about the human organism forcefully suggests that people are different. Any effort to make them all think alike or look, or act or learn alike is simply naive."[20]

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[19] *Ibid.*, p. 567.

[20] Jack R. Frymier, "Teachers: Not Will But Can They Change," *SEA Newsletter Strategies for Educational Change*, vol. 2, no. 6 (November, 1968), p. 2.

Educational experts seem to agree that three main educational ideas have developed: "(1) education has to be changed; (2) educators have been attempting change; (3) these change efforts in general have been less successful and less effective than the pace of the times demands."[21] It appears that teachers and educational systems, if effective, are those which are able to adopt and arrange the curriculum to meet the child's needs. To be effective, the teacher should be able to cope with new stimuli and ideas. Otherwise, he will not be in a position to adopt deliberate, unique, or creative change.[22] It appears that the newer concepts, techniques and media are most useful to those teachers who are "psychologically capable" of making proposed educational changes. Yet if teachers are "defensive, closed, inadequate, and fearful," they will be unable to absorb that which is new into their central nervous system. "Unless they can do this, the innovation can only be utilized mechanically and unthinkingly, or not at all."[23] What is known about the nature of the human personality seems to suggest that persons vary in respect to their openness to experience. Statistically speaking most persons seem to fall somewhere between open and closed.

It would appear that, in order to set forth meaningful and effective educational change, one must recognize that there is needed a degree of openness among the professional staff.[24]

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[21] _Ibid_., p. 1.

[22] _Ibid_., p. 2.

[23] _Ibid_., p. 2.

[24] _Ibid_., p. 3.

> We already know enough in terms of personality theory and the theory of change to state that, unless we intend to impose change upon those who are participants in the educational enterprise, the only alternative is to encourage them to change through experience with the unique and the new.[25]

If this is so, then, the change agent must make a direct personal approach with the individual personality who is professionally involved.

> Theoretically, we can attract in, improve upon, or eliminate teachers from the profession according to their individual personality structure and perceptual style. That is, if we can draw into the profession those persons who are psychologically open, help those now in this profession become still more open, and ultimately help out or eject from the professional group those persons who are closed to experience, then innovation in education could get a "real trial." What is being suggested, of course, is that membership in the profession be determined at least in part, according to one's personality.[26]

Ernest Greenwood points out the following:

> One of principal functions of the professional schools is to identify and screen individuals who are prospective deviants from the professional culture. That is why the admission of candidates to professional education must be judged on grounds in addition to any other than their academic qualifications. Psychic factors presaging favorable adjustment to the professional culture are granted an importance equivalent to mental abilities.[27]

While Greenwood's comments were pointed towards the social worker they still apply to the education profession.

The education profession needs professional persons who desire to grow, change, and be ready to adopt change easily if need be. Those teachers who are not able to make needed changes should be refused professional status or be requested to leave the profession if they are already members. It is necessary to have people in education who are flexible, adaptive, open, and perceptive.[28]

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[25] Ibid., p. 3.

[26] Ibid., p. 3.

[27] Ibid., p. 3.

> Either we find a way to attract into the profession and retain those persons capable of further growth and capable of incorporating innovations and change proposals into their experimental mode, or education as an institution will wither or die. We must "keep out" or "kick out" those persons who are closed or become closed over the years, for any reason at all.[29]

Of course it is necessary to have compassion and concern for people. However, we may need to deny closed individuals a part in the education profession if it is ever to improve.

A single criterion may be "Is this person open and capable of change?"[30]

Frymier[31] quotes:

> Not every change proposal should be adopted, nor even tried. Change in education, though, requires people who are capable of considering the innovative and the different and new. The world is turning, life is moving, and things are happening with fantastic speed. The professional in education must be open to experience. He must be able to receive and then to perceive and finally act upon suggestions regarding change. This can only happen if he is perceptually uninhibited, personally secure, and psychologically adequate. It takes competent people to effect educational change, and competence must be reflected in personality structure, as well as mental ability or achievement in academic ways. The task is clear. The means are meagre. The time to start is now.

Many new programs seem to require teachers and administrators who have a propensity toward innovation. "A study of the teacher with a life style toward innovation and change should contribute immeasurably to the knowledge held by the person and open up a new dimension for research in teaching."[32]

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[28] Ibid., p. 3.

[29] Ibid., p. 3.

[30] Ibid., pp. 3-4.

[31] Ibid., p. 4.

A look at the individual personality within the institutional pattern should give an additional perspective to the problem of change. Research dealing with the individual personality and resistance to change is needed.[33]

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[32] John M. Jenkins, "A Study of the Innovative Characteristics Associated With Innovative Behavior in Teachers" (unpublished Doctor's thesis, The University of Miami, Coral Gables, Florida, January, 1967), p. 18.

[33] Frymier, loc. cit., p. 4.

CHAPTER V

SELECTING, CONSTRUCTING AND TESTING OF THE RESEARCH INSTRUMENTS

Introduction

This chapter will establish the reason for selecting the types of instruments used to gather data for this study. Two instruments were constructed for the purpose of trying to classify the acceptor and the rejector of the newer educational media. They are: the WAVED Initial Questionnaire and the Audiovisual Building Coordinator Rating Scale. As part of the WAVED research the Kelley Audiovisual Attitude Questionnaire was selected to measure the pre and post attitude of the secondary teachers located at the seven building sites for the WAVED demonstration. The Edwards Personal Preference Schedule was selected for the study of the personality characteristics of teachers utilizing the WAVED demonstration. The following sections will explain what each instrument attempted to measure.

Instruments to Classify the Acceptor and the Rejector of the Newer Educational Media

The WAVED Initial Questionnaire. This questionnaire served as a means of obtaining demographic background data about the individual such as - name, age, school, subject specialty, grade level, preparation period, administrative or additional responsibilities, total years of teaching experience, and the number and type of audiovisual courses taken. The individual was able to list those units of teaching he would be covering during WAVED's two-week stay. Part C of this instrument (the self-rating scale) dealt with the person's self-evaluation of his utilization of the newer educational media during the past teaching year. If the individual had no teaching experience he projected a response for his anticipated utilization of the newer educational media for this year. This self-evaluation scale was constructed with the assistance of Dr. E. A. Wilkening, a leading authority on the adoption process in the field of Rural Sociology. This self-rating scale was based on the adoption process which is the mental process through which an individual passes after first hearing about a new idea to finally adopting it. These adoption stages are commonly referred to as: (1) Awareness, (2) Interest-Information, (3) Evaluation - Application - Decision, (4) Trial, and (5) Adoption. This entire mental process may be rejected at any point. The self-rating scale used the following categories in order to discriminate between individuals who are, and are not, passing through the adoption process. The categories were: (1) Not aware and not interested; (2) Not aware but interested; (3) Aware but not interested; (4) Aware and interested but have not tried it; (5) Tried but not convinced of its usefulness; and (6) Tried and convinced of its usefulness. It was decided that categories 1 and 3 (not aware and not interested; aware but not interested) would isolate those persons and classify them as being a rejector of the newer educational media. Categories 2 and 4 (not aware but interested; aware and interested but have not tried it) would isolate those persons and classify them as the average acceptor. The categories 5 and 6 (tried but not convinced of its usefulness; tried and convinced of its usefulness) would isolate and classify those persons as being an acceptor of the newer educational media.

The Audiovisual Building Coordinator Scale. This instrument was designed to determine how faculty members were using the newer educational media during the past year of their teaching. It was determined that the school's audiovisual building coordinator would be the appropriate person to rate faculty on the use of the newer educational media because it was the audiovisual coordinator who kept basic records and scheduled media for teachers.

The instrument was constructed on a continuum of 1 to 7, on which the audiovisual coordinator rated each faculty member using 1 for those persons who never seemed to use the newer media, and 7 for those persons who seemed to use the newer media very frequently. 2-6 were used to represent the various degrees of frequency between the two extremes. The frequency of newer media usage increases with ratings 1-7.

The audiovisual building coordinator was given written and oral directions on how to complete this continuum. He was also given a definition of the term - newer educational media. These ratings were obtained prior to the arrival of the WAVED units. Each faculty member's name was chosen at random from a master faculty list and placed on the Building Coordinator Rating Sheet. The rating sheet was completed within a short period of time and was mailed back to the researcher. The audiovisual building coordinator was the respondent to this instrument at six (6) of the participating school sites while the high school principal completed the rating sheet at the seventh site because the school had no audiovisual building coordinator.

Wisconsin Audiovisual Log. This log was designed for the purpose of keeping records of all audiovisual materials and equipment utilized by the faculty at the WAVED school building site. Types of records kept were: name of teacher, number of visits, subject matter, nature of inquiry, and final audiovisual results obtained by each faculty member. A WAVED secretary obtained and tabulated this information at each school site. A WAVED Utilization Scale was developed from this information.

Measurement of Audiovisual Attitude

The Kelly Audiovisual Attitude Scale. The 22-item Kelley Audiovisual Attitude Scale was devised by using the Thurstone item type scaling method. Kelley collected statements of attitudes from teachers at various grade levels, edited them, and had a jury of members of the Department of Audiovisual Instruction, National Education Association, rate them on a 9-point rating scale.[1] Kelley then selected 22 statements which reflected a very negative to a very positive attitude toward the use of audiovisual media. Riehle, University of Wisconsin, 1967, used the Kelley Audiovisual Attitude Scale in his study because of its validity and reliability. Kelley's Audiovisual Attitude Scale derived a numerical index of teachers' attitudes toward audiovisual media.[2] The following shows Kelley's[3] assigned values to each statement:

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[1] Hal Riehle, "An Attitude Change Study to Determine the Effectiveness of a University of Wisconsin Audiovisual Demonstration Program" (unpublished Doctor's thesis, The University of Wisconsin, Madison, Wisconsin, 1967), pp. 40-41.

TABLE 1

THE SCALE VALUE OF INDIVIDUAL STATEMENTS FOR KELLEY'S SCALE FOR MEASURING ATTITUDES

Item No.	Value	Statement
1.	3.43	Audiovisual materials are a wonderful aid to classroom teaching.
2.	3.15	Children retain longer the material that has been presented visually.
3.	2.98	The use of audiovisual materials makes for high levels of student interest.
4.	2.61	Audiovisual materials are useful in correcting erroneous concepts.
5.	2.43	Films and filmstrips are usually quite accurate as far as content is concerned.
6.	2.12	Obtaining the audiovisual materials that I want is usually quite a simple procedure.
7.	1.83	Films are usually in good repair when they are received.
8.	1.54	Audiovisual materials can be useful on occasion.
9.	.90	Audiovisual materials are available when they are needed.
10.	.52	The good and bad points about audiovisual materials balance one another.
11.	- .35	My use of audiovisual materials has been limited though I would use more of them if I could be sure of their value.
12.	-1.15	I have nothing against the use of these materials, but I wonder just how useful they really are?

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[2] *Ibid.*, pp. 43-44.

[3] *Ibid.*, pp. 49-50.

Item No.	Value	Statement
13.	-1.54	It might be difficult for the student to handle abstract ideas if his experiences are limited to audiovisual materials.
14.	-1.83	My instructors in college did not use audiovisual materials; why should I?
15.	-2.11	Previewing films and filmstrips is always a chore.
16.	-2.33	It is too much bother to request the materials far enough in advance to be sure of getting them when you want them.
17.	-2.74	It is extremely difficult to locate appropriate audiovisual materials.
18.	-2.98	Students in higher grades are able to handle more abstract materials and do not need audiovisual teaching.
19.	-3.31	It takes too much time to use audiovisual materials in the classroom.
20.	-3.55	These materials seldom have much to offer in the classroom setting.
21.	-3.89	Teachers are just entertaining the class when they use audiovisual materials.

Measurement of Personality

Personality Inventories. A general personality inventory usually measures a group of personality or adjustment variables. This type of inventory is subject to the individual's own perceptions and his willingness to be honest. It was possible to isolate independent characteristics that do not correlate highly with each other,[4] by using the statistical treatment of factor analysis in personality inventory construction.

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[4] Walter R. Borg, Educational Research--An Introduction (New York: David McKay Company, Inc., 1965), pp. 103-104.

The major advantages of personality inventories are low cost and ease of administration and scoring. Some of the weaknesses in this type of inventory have been the lack of construct validity, and questions which are subject to faking by the test subject. Some subjects will always try to make themselves look better on this type of test.[5]

Personality inventories are used in educational and psychological research. They provide the variable characteristics of groups under study, i.e. underachiever, vocational group, members of minority groups, etc. Borg suggests that a personality inventory for research purposes should be checked to determine if a scale using direct questions can be expected to yield valid results in the research. The direct question inventory will be fruitless for obtaining the desired data if testing subjects have a need to fake their answers. The researcher also needs to study the test content, manual and other resources to check on the variables to be measured.[6]

The researcher may not need to use all the variables found in the personality inventory, but rather, he may select and score only those items needed for his study.[7]

Borg cautions the researcher to realize that personality inventories may be considered an invasion of privacy. It is necessary to carefully review the inventory in order to see if there might be objections by those individuals taking it. If there seems to be objectionable items in the inventory, a public relations scheme may need to be undertaken before and during the research.[8]

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[5] *Ibid.*, p. 104.

[6] *Ibid.*, pp. 105-106.

[7] *Ibid.*, p. 106.

The researcher must consider the data or scores from personality inventories as highly confidential. "Most research reports deal with quantitative results, and it is generally not necessary to single out individual cases for discussion."[9]

The Edwards Personal Preference Schedule (EPPS). This scale was designed as a quick and easy method of obtaining independent normal personality variables for the areas of research and counselling. The statements were derived from a list of manifest needs originated by H. A. Murray. The EPPS (15) dimensions are: (1) Achievement; (2) Deference; (3) Order; (4) Exhibition; (5) Autonomy; (6) Affiliation; (7) Intraception; (8) Succorance; (9) Dominance; (10) Abasement; (11) Nurturance; (12) Change; (13) Endurance; (14) Heterosexuality; and (15) Aggression.[10] Edwards[11] definitions are:

> 1. ach Achievement: To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.
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> 2. def Deference. To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done

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[8] Ibid., p. 106.

[9] Ibid., pp. 106-107.

[10] Allen L. Edwards, Edwards Personal Preference Schedule (New York: The Psychological Corporation, Revised 1959), p. 5.

[11] Ibid., p. 11.

a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

3. ord Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have things arranged so that they run smoothly without change.

4. exh Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. aut Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

7. int Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others will act.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

9. dom Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of

committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

10. aba Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

12. chg Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

13. end Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

14. het Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex, to become sexually excited.

15. agg Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make funof others, to tell others off when disagreeing with them, to get revenge for insults, to become

angry, to blame others when things go wrong, to read newspaper accounts of violence.

There are other personality inventories which measure dimensions such as: emotional stability, anxiety, neuroticism, paranoia, hysteria, and schizophrenia. These types of personality are difficult to analyze in terms of what is meaningful for the subjects taking them. The EPPS has dimensions which are descriptive and meaningful to the researcher.[12]

Administering the EPPS Scale. The EPPS is easy to administer because of the following reasons: (1) it may be administered either individually or in groups; (2) answers may be completed on IBM scoring sheets, Digitek scoring sheets, or hand scoring sheets; (3) it only requires about 40 minutes for the average college student to complete the EPPS; and (4) the EPPS has no fixed time limit.[13]

EPPS Scoring Technique. The EPPS was scored by Digitek optical scanning equipment of the Wisconsin Testing Service, University of Wisconsin. The respondent's answer sheet was checked for: the last six digits of their driver's license number, light choice marks that needed to be darkened in, and if omissions were made in answering any of the items. The Digitek programmer programmed the Digitek scanning machine in order to obtain one score card for each individual per trait. There were a total of 14 individual trait cards per person.

Scoring Interpretation. Each of the 15 variables of the EPPS were paired twice with each of the other variables. If the subject should choose the same statement for a single dimension as being characteristic of himself his total score would be 28. This researcher discussed with the author, Dr. Allen Edwards, the need to eliminate the single dimension Heterosexuality. He agreed with the decision to eliminate the Heterosexuality dimension. The main reason for eliminating the Heterosexuality variable was to eliminate any possibility of rejecting the entire EPPS schedule because of the infringement upon one's personal feelings about the opposite sex. If the subject should choose the same statement for a single dimension as being characteristic of oneself, there would be a total score of 26.[14]

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[12] *Ibid.*, *op. cit.*, p. 6.

[13] *Ibid.*, p. 6.

The Buros[15] Sixth Mental Measurements Yearbook indicates:

> Since its appearance a decade ago, the Edwards Personal Preference Schedule (EPPS) has been widely used and has generated a tremendous amount of research. This popularity stems from a theoretical relevance and potential usefulness of the personality variables that it is intended to measure - 15 of Murray's needs - and its attempt to minimize the effects of social desirability of a set of personality items correlated .87. Its use in the testing of psychological hypothesis is unimpressive, yet it is primarily a research tool.

Selecting the WAVED Utilization Scale to Determine the Acceptor and Rejector of the Newer Educational Media

From the outset of this research it was the original intent of the researcher to classify the acceptor and rejector of the newer educational media by determining levels of faculty utilization of WAVED at the seven consecutive building sites. Tables II and III seem to lend support to this original intent of the researcher in using the utilization levels of WAVED as a way of classifying acceptors and rejectors. Table II shows that most teachers seemed to rate themselves as average acceptors of the newer educational media. Perhaps it is true that most people tend to rate themselves toward the average on any type of self-rating scale.

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[14] Ibid., p. 9.

[15] Oscar K. Buros, The Sixth Mental Measurements Yearbook, The Gryphon Press, Highland Park, New Jersey, 1965, p. 200.

TABLE II

PERCENTAGE OF ACCEPTORS, AVERAGE ACCEPTORS AND REJECTORS ACCORDING TO THE SELF-RATING SCALE

WAVED Classification	Per cent of Teachers Rating Themselves as Rejectors	Per cent of Teachers Rating Themselves as Average Acceptors	Per cent of Teachers Rating Themselves as Acceptors
Rejector	24.36	48.72	26.92
Average Acceptor	11.11	63.49	25.40
Acceptor	16.07	61.61	22.32

Table III shows that the audiovisual building coordinator seemed to rate teachers higher than they deserved. This may have been done because of their own self-pride in making the audiovisual program appear to be outstanding for their school building.

TABLE III

PERCENTAGE OF ACCEPTORS, AVERAGE ACCEPTORS AND REJECTORS BASED ON THE AUDIOVISUAL BUILDING COORDINATOR'S SCALE

WAVED Classification	Per cent Rated by Audiovisual Coordinator as Rejectors	Per cent Rated by Audiovisual Coordinator as Average Acceptors	Per cent Rated by Audiovisual Coordinator as Acceptors
Rejector	23.08	32.05	44.87
Average Acceptor	17.46	26.98	55.56
Acceptor	8.93	27.68	63.39

This original intent was also reinforced because of the low correlation coefficients on the WAVED Initial Questionnaire (Self-Rating Scale) and the Audiovisual Building Coordinator Rating Scale. Other reasons for using the WAVED utilization levels for classifying acceptors and rejectors were:

1. The WAVED secretary kept accurate records of faculty use and the number of visits to the WAVED demonstration at each of the seven consecutive secondary school locations.

2. The WAVED demonstration was considered to be the most innovative audiovisual learning experience that could be provided for faculties of the seven secondary school locations.

3. There was no external pressure exerted by either the WAVED staff or school site administrative staff for the purpose of coercing faculty to use this demonstration. The faculty did have an equal opportunity to actively produce and utilize the WAVED facilities staff.

Constructing the WAVED Utilization Scale. The levels of audiovisual use were developed from information obtained from the WAVED utilization records. The levels of audiovisual use were (unanimously) agreed upon by ten audiovisual specialists. The faculty users and non-users of the WAVED unit, having completed all our research instruments, were assigned a level of utilization based upon a 1-5 continuum, no use--1, to highest level of use--5. These levels are described as follows: (1) no visit to or use of demonstration; (2) visit or tour; (3) see demonstrations and learn how to operate the newer audiovisual media (i.e. language laboratory, dry mounting, and projection equipment); search for suitable audiovisual materials and consult audiovisual books and catalogs; (4) preview, schedule and utilize the newer audiovisual media (i.e. filmstrips, educational motion picture, phonograph records, tape recordings, slides, subject kits, and filmstrip-record combinations); and (5) consult with the media specialist for the purpose of producing and utilizing the newer educational media such as: slides, overhead transparencies, producing original transparency masters, audiotape recording, photomodifying, bulletin boards, mounting flat pictures (dry mounting), color lift transparencies, postermaking, laminating-preserving materials, video tape recording, making study prints, 8" x 10" photographic prints, slide copywork, sign-making, chartexing, map making, dubbing phonograph records to tape, closed-circuit television, duplicating materials (photocopying), creative artwork and cartooning for slides and transparencies, 8 mm filming, duplicating audiotapes, and creative artwork for murals.

The 253 teacher subjects, who took part in this research, were classified as follows:

1. Teachers who had not utilized or even visited the WAVED demonstration were clearly classified as rejectors of the newer educational media for this study. There were 78 teachers placed in this category of no use or visit.

2. Teachers rated in the categories of 2, 3, or 4 were classified as the average acceptors of the newer educational media for this study. There were 63 teachers placed in this category of average acceptor.

3. Teachers who were rated as using WAVED to its highest level, having visited it from 1-8 times, were classified as the acceptors of the newer educational media for this study. There were 112 teachers placed in this category.

Pretesting of Instruments

This section will be concerned with the testing of the instruments prior to the actual testing of teachers at school building sites visited by the WAVED demonstration. This pretesting of research instruments was necessary in order to determine if faculty at the school site would respond appropriately to the exploratory acceptor and rejector instruments as well as standardized instruments. Pretesting of these instruments enabled the researcher to change and improve the instruments and the methods of administering them. The instruments were tested at Waukesha South Campus High School, Waukesha, Wisconsin. The instruments tested were:

1. The Wisconsin Audiovisual Education Demonstration Initial Questionnaire.

2. Audiovisual Coordinator Rating Scale.
3. Wisconsin Audiovisual Demonstration Log of Use.
4. The Kelley Attitude Scale.
5. The Edwards Personal Preference Schedule.

WAVED Initial Questionnaire. Part C of the questionnaire asked the faculty member to indicate his response to the types of media listed as being representative of the newer educational media. Upon tabulation of Part C various respondents inserted suggestions such as: "this questionnaire is too long!", "please add the category not aware but interested," and "what if we didn't teach during the past year?" The suggestion was given by the WAVED Media Specialists to shorten the questionnaire to two pages.

These suggestions resulted in adding the category not aware but interested to Part C. The following statement was also added to the directions for Part C: If you had no teaching experience last year, please respond according to your anticipated teaching for this year. The questionnaire was shortened to two pages.

The Audiovisual Building Coordinator Scale. Mr. Raymond Jensen, Audiovisual Coordinator, Waukesha High School, responded to the 1-7 point scale designed to rate each faculty member on the use of audiovisual media over the past year of teaching. He was able to rate each faculty member 1 for those persons who never seem to use the newer media; 7 for those persons who seem to use the media very frequently; while 2-6 represented the various degrees of frequency between the two extremes. He found no difficulty in making these ratings.

The Wisconsin Audiovisual Demonstration Log. A secretary from WAVED recorded the name of the teacher, number of visits, subject matter taught, nature of inquiry, and the final audiovisual results obtained by them. At the close of the two-week stay she tabulated this data for each faculty member. Because of the need to keep accurate records a secretary was hired at each of the seven sites. It was decided to hire a person who had some previous contact with the high school faculty members.

The Kelley Audiovisual Attitude Scale. This scale was pretested at the initial WAVED faculty meeting six weeks prior to the arrival of WAVED at Waukesha South Campus High School. The Kelley Scale needs to be paired "before" and "after" its administration, that is, the questionnaire of an individual taking the test six weeks prior to the arrival of WAVED must be matched with the test questionnaire given one week following WAVED's departure. The last six digits of the Wisconsin driver's license was used to match the before and after responses. The respondent was asked to use his home telephone number if he had no license.

This researcher discovered that people who do not agree with the attitudinal statements of Kelley tended to make changes or remarks on the form. In order to avoid this the researcher added the following statement to the directions for the Kelley Audiovisual Attitude Scale: This Test is Validated as it is - Do Not Make Any Changes or Additional Notations. The addition of this statement diminished the tendency for respondents to change the statements.

__The Edwards Personal Preference Schedule.__ This scale was pretested one week following WAVED's departure. The assumption was made that subjects might be able to respond to the Edwards scale on an individual basis. This researcher conjectured that teachers would prefer to complete this questionnaire during their spare time rather than at a faculty meeting because at least 50 minutes were required to complete the Edwards scale. Each Waukesha faculty member received a packet which included: (1) directions for answering the Edwards scale and the Kelley scale; (2) Edwards booklet and answer sheet; and (3) a number 2 pencil for filling in the Edwards Digitek answer sheet. The packets were to be returned within one week.

Problems began the day after the packets were distributed. The nature of the problem centered around the failure of teachers to participate in filling out the Edwards scale.

A New Communications Scheme

A new communications scheme was developed because only 12 Waukesha faculty members responded to the WAVED research instruments. (See appendix for a listing of some of the reasons for nonparticipation in the study.) This researcher designed a new communication scheme for WAVED faculty meetings at the seven school building sites, which consisted of the following:

1. At the initial WAVED faculty meeting the WAVED Media Specialist talked about the type of research being carried out in conjunction with the WAVED unit. The Media

Specialist indicated the need for cooperating in this exploratory research.

2. The WAVED Media Specialist administered the Kelley post-attitude scale.
3. This researcher developed a series of creative transparencies to explain the Edwards Personal Preference Schedule. The Edwards scale was taken home and filled out during the respondent's leisure moments. This researcher conjectured that this new approach lessened some of the fears concerning the Edwards scale.

It was decided to administer the post-Kelley attitude at the WAVED faculty meeting one week following WAVED's stay. Faculty members who could not be present at this meeting were immediately contacted and given a postattitude scale and EPPS inventory to complete. The Kelley attitude scale was completed within one week following WAVED's stay by all subjects.

In summary, this new data gathering plan worked well at the remaining six WAVED location sites.

CHAPTER VI

ANALYSIS OF FINDINGS

Introduction

This chapter will present the exploratory findings relative to this study of personality characteristics of secondary school teachers classified as acceptors and rejectors of the newer educational media. The classification of the acceptor and rejector was based on the WAVED Utilization Scale. Tables will report the breakdown of respondents to the study. These will include information on background factors, the audiovisual preattitude means, the postattitude means, change of attitude means, and finally, the personality characteristics which seem to be significant for those teachers who are classified as acceptors and rejectors of the newer educational media.

The Electronic Computer

The Need and Use. The three major advantages for using computers for data analysis are: speed, economy and accuracy. Sax[1] indicates that computers are essential when a large number of variables are to be processed, the total N is large, the analysis is complex, and a program is available. This research study met Sax' criteria for the use of the computer.

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[1] Gilbert Sax, Empirical Foundations of Educational Research (New Jersey: Prentice-Hall, Inc., 1968), p. 246.

The respondent's name, last six digits of the Wisconsin driver's license, male-female, ages in grouped categories, location, subject specialty, grade level, additional responsibility, total years of experience, number of audiovisual courses taken, scores for the self-rating scale, pre, post, and change of attitude scores, WAVED utilization score, and the 14 scores of the EPPS were placed on two 80 column computer cards. The punched data was verified for its accuracy. In cases where the computer rejected cards for major errors (i.e. missing data) this researcher decided to reject that individual from the study. The computer rejected only five out of a total of 258 subjects for having insufficient data.

The computer was also used to make rapid calculations for preaudiovisual attitude, postaudiovisual attitude, and attitude change.

Types of Computers and Programs. The CDC - 3600 computer at the University of Wisconsin Computer Center was used to compute the statistics. The program used was the DSTATI (Correlation Analysis), a part of the University of Wisconsin STATJOB. The Wisconsin Interactive Programming Language (WIPL) was used on the Burroughs 5500 for the calculation of t-scores.

The Sample and the Background Factors

There was a total population of 515 teachers who could have participated as subjects for this research. Of the total of 515, 253 responded to all of the research instruments. These 253 respondents were the sample. Teachers who did not complete all research instruments were rejected as well as those teachers who did not participate in this research from its inception at the school site.

Table IV shows the school locations, the number of faculty at each location, the number and the percentage of faculty respondents completing all research instruments. There was a low 15 per cent return from Waukesha. This appears to be attributed to the pretesting of instruments at that location. The 27 per cent return from Beloit appears to stem from external problems affecting the teachers at that location. The Advance Media Specialist of WAVED, in his prework with this location, reported that only 33 out of 92 teachers at Beloit, arranged for an interview prior to WAVED's arrival.

TABLE IV

NUMERICAL BREAKDOWN OF THE SAMPLE

High Schools	No. of Faculty Members	No. of Respondents*	Percentage
Waukesha South Campus, Waukesha	82	12	15
Pius XI, Milwaukee	98	64	66
Horlick, Racine	109	58	54
Memorial, Beloit	92	25	27
Monona Grove, Monona	65	32	51
Fennimore, Fennimore	25	25	100**
Tomah	43	37	84
Total Population	515		
Total Sample		253	

* Respondents refers to those teachers who completed all research instruments

** Total commitment of all teachers.

Table V shows the number of male and female acceptors, average acceptors and rejectors of the newer educational media. It was interesting that the total sample was split so closely between male and female.

TABLE V

NUMBER OF MALE-FEMALE ACCEPTORS, AVERAGE ACCEPTORS, AND REJECTORS

	Acceptor	Average Acceptor	Rejector	
Male	54	35	37	126
Female	58	28	41	127
Total	112	63	78	

Table VI reports the group mean age, the mean number of years of teaching, and the number of audiovisual courses taken.

TABLE VI

BACKGROUND FACTORS

Group Mean Age	Mean No. of Years Teaching	Number of Audiovisual Courses
31-40	11.6	.6

Table VII reports the age and the number of audiovisual courses taken.

TABLE VII

TEACHER AGE AND THE AVERAGE NUMBER OF AUDIOVISUAL COURSES TAKEN

Number of Teachers	Age Groups	Average Number of Courses Taken
97	21-30	.60
74	31-40	.55
46	41-50	.65
24	51-60	.58
12	61-70	.75
253		

Table VIII reports that teachers with 10-12 years of experience, on the average, had taken the most audiovisual courses.

TABLE VIII

YEARS OF TEACHING EXPERIENCE AND AVERAGE NUMBER OF AUDIOVISUAL COURSES TAKEN

	Number of Teachers	Years of Teaching Experience	Average Number of Audiovisual Courses Taken
	69	1-3	.59
	30	4-6	.50
	38	7-9	.53
	28	10-12	.96
	20	13-15	.10
	21	16-18 and above	.62
Total Sample	253		

Table IX shows that at both Piux XI and Beloit High School approximately one-half of the teachers participating in the research were placed in the rejector classification of the newer media. It is noteworthy that Fennimore and Tomah had a low number of rejectors. It is possible to speculate that new teachers are taking positions in rural and suburban schools rather than large city schools. These newer teachers may have been exposed to more audiovisual courses during their undergraduate program.

TABLE IX

LOCATION AND NUMBER OF ACCEPTORS, AVERAGE ACCEPTORS AND REJECTORS

Location	Number Responding to All Instruments	Number of Classified Rejectors	Number of Classified Average Acceptors	Number of Classified Acceptors
South Campus High School, Waukesha (pretesting site)	12	0	3	9
Pius High School, Milwaukee	64	32	4	28
Horlick High School, Racine	58	13	26	19
Memorial High School, Beloit	25	14	1	10
Monona Grove High, Monona	32	10	11	11
Fennimore High, Fennimore	25	4	5	16
Tomah High, Tomah	37	5	13	19
Total Sample	253	78	63	112

Table X presents the average WAVED utilization ratings for the seven locations visited by WAVED. While South Campus High had the highest average WAVED rating, it should be discounted because of the small number of respondents to the pretesting of research instruments there.

TABLE X

WAVED UTILIZATION SCALE RATING

Location	Number of Respondents	Average WAVED Utilization Rating for Respondents
Waukesha South Campus, Waukesha (pretesting site)	12	4.500
Fennimore High School, Fennimore	25	4.125
Tomah High School, Tomah	37	3.736
Monona Grove High School, Monona	32	3.242
Horlick High School, Racine	58	2.983
Pius XI High School, Milwaukee	64	2.906
Beloit Memorial High School, Beloit	25	2.720

Table XI shows that the number of teachers in many of the subject areas are small; therefore, it is difficult to make any speculation about the data. It is interesting that out of a total of 15 industrial arts teachers, 46.67 per cent were acceptors of the newer educational media and 40.00 per cent were rejectors. It was bothersome to the researcher that there were any rejectors in the industrial arts field since it lends itself to the use of most types of educational media. The same observation may be made for the area of business education.

The table shows that 56.25 per cent of the foreign language teachers were acceptors of the newer educational media. This high percentage might be due to their familiarity with materials.

For the English teachers involved in this research, 41.51 per cent were classified as acceptors of the newer media while 35.85 were classified as rejectors. This information seems to indicate that there is a trend for English teachers to use audiovisual materials.

For the subject of mathematics, it seems that there were more rejectors of the newer educational media than there were acceptors. This is somewhat disturbing since math audiovisual materials are now available. However, some math teachers indicated that many of the materials commercially available are not suitable.

For the sciences it was somewhat surprising that out of 21 teachers in the study, 47.62 were classified as rejectors while 38.10 were classified as acceptors. There is a great variety of materials and approaches readily available to science teachers.

Among the history-social studies teachers, 51.43 per cent were acceptors while 17.14 per cent were rejectors.

TABLE XI

BREAKDOWN ACCORDING TO SUBJECT MATTER

Subject Matter	Number of Teachers	Average WAVED Rating	Per cent of Classified Rejectors	Per cent of Classified Average Acceptors	Per Cent of Classified Acceptors
Agriculture	3	3.67	33.33	.00	66.67
Home Economics	11	4.09	9.09	27.27	63.64
Industrial Arts	15	3.00	40.00	13.33	46.67
Business Education	21	3.33	28.57	23.81	47.62
English	53	3.25	35.85	22.64	41.51
Speech	2	4.00	.00	50.00	50.00
Foreign Language	16	3.94	18.75	25.00	56.25
Mathematics	26	2.69	34.62	38.46	26.92
Driver & Safety Education	3	3.00	33.33	33.33	33.33
Music	4	2.25	50.00	25.00	25.00
Physical Education	12	2.67	41.67	33.33	25.00
Art	11	3.55	27.27	18.18	54.55
Sciences	21	2.76	47.62	14.29	38.10
Social Studies & History	35	3.66	17.14	31.43	51.43
Social Problems	6	4.00	.00	33.33	66.67
Special Education	2	5.00	.00	.00	100.00
Library	3	3.67	33.33	.00	66.67
Guidance	6	2.33	50.00	33.33	16.67
Religion	3	2.33	66.67	.00	33.33

Attitude Findings

Table XII shows the significance of the attitude correlation variables when measured by a two-tailed test of significance. The formula to obtain the t-score from the correlation weightings was -

$$t = r \sqrt{\frac{253 - 2}{1 - r^2}}$$

TABLE XII

TWO-TAILED TEST OF SIGNIFICANCE - CORRELATION ATTITUDE VARIABLES

Variables	Correlation Coefficient	Degrees of Freedom	"T-Score"
Postattitude-Preattitude	0.477	251	8.598*
Attitude Change & Preattitude	-0.523	251	-9.721*
Attitude Change & Postattitude	0.500	251	9.147*

* sig. .01 level

Table XIII indicates that there was an over-all total positive mean change of attitude for both males and females responding to this research.

TABLE XIII

MALE AND FEMALE — PRE, POST, AND CHANGE OF ATTITUDE MEANS

Sex	Number of Respondents	Preattitude Mean	Postattitude Mean	Change of Attitude Mean
Male	126	1.611	1.820	.210
Female	127	1.764	1.783	.019

Table XIV indicates a positive mean attitude for pre, post, and change at six locations (all except Beloit Memorial at Beloit, Wisconsin) as measured by the Kelley Audiovisual Attitude Scale.

TABLE XIV

HIGH SCHOOL LOCATIONS AND THE PRE, POST AND ATTITUDE CHANGE MEANS

Location	Total Faculty	Number Responding	Pre-attitude Mean	Post-attitude Mean	Change of Attitude Mean
South Campus High, Waukesha (Pretesting Site	82	12	1.513	1.716	.202
Pius XI High School, Milwaukee	98	64	1.907	1.985	.078
Horlick High School, Racine	109	58	1.509	1.720	.210
Memorial High School, Beloit	92	25	1.653	1.328	-.324
Monona Grove High School, Monona	65	32	1.816	1.917	.102
Fennimore High School, Fennimore	25	25	1.504	1.726	.223
Tomah High School, Tomah	43	37	1.672	1.906	.234

Table XV seems to indicate that for all age groups, except 61-70, there was a positive mean change of attitude towards audiovisual materials. There was a negative mean attitude change for the 61-70 age group. For the age groups except 61-70 it would appear that the WAVED unit was influential in improving an existing favorable attitude towards audiovisual materials. It appears that media specialists should consider workshops and/or courses in order to reach teachers as soon as possible after college graduation. A continuum media workshop approach might be beneficial for teachers in the 31-70 age group.

Perhaps it would also be beneficial to identify teachers between the ages of 41-50 who have a positive attitude toward media to serve as media change agents among the faculty. They might be very influential in changing attitudes towards audiovisual utilization among their colleagues.

TABLE XV

PRE, POST, AND CHANGE OF ATTITUDE
MEANS ACCORDING TO AGE GROUPS

Number of Teachers	Age Groups	Preattitude Mean	Postattitude Mean	Mean Change
97	21-30	1.593	1.686	.094
74	31-40	1.762	1.867	.105
46	41-50	1.603	1.853	.257
24	51-60	1.801	1.959	.159
12	61-70	2.088	1.788	-.302

From Table XVI it appears that the mean attitude change was more negative for subjects after 30 years of teaching experience. This trend may indicate that the higher education or school district media specialist needs to work more effectively with in-service teachers in the area of audiovisual media. There may be a necessity to recruit persons with over 30 years of teaching experience for special audiovisual workshops.

TABLE XVI

PRE, POST, AND CHANGE OF ATTITUDE MEANS ACCORDING TO TEACHING EXPERIENCE

Years of Experience	Number of Respondents	Preattitude Mean	Postattitude Mean	Attitude Change Mean
0- 9	137	1.5875	1.730	1.56
10-19	72	1.782	1.913	.132
20-29	19	1.859	1.920	.062
30-39	13	1.952	1.829	-.123
40-49	12	1.820	1.636	-.184

Table XVII shows that there was a negative mean change of attitude for 29 acceptors who visited WAVED only once. It may be possible that these people were the very ones who felt they had time for only one visit and decided, at that time, to make effective use of these facilities. There may be a possibility that these acceptors responded because of a sense of duty or loyalty to the administration, resulting in a negative attitude posture.

TABLE XVII

ATTITUDE OF THE ACCEPTOR WITH ONLY ONE VISIT TO WAVED

Group	Number of Acceptors	Preattitude Mean	Postattitude Mean	Change of Attitude Mean
Acceptor	29	-1.87	1.75	-.12
Acceptor	83	1.65	1.81	.16

The Personality Analysis

Dr. Frank Farley, Educational Psychology, University of Wisconsin, had suggested the possibility of analyzing the personality characteristics of acceptors and rejectors based on their raw scores obtained on the EPPS. Evidence seemed to indicate that raw scores would reveal more information about the personality characteristics than would the standardized normative scores for the EPPS. Dr. Allen Edwards, author of the Edwards Personal Preference Schedule, suggested the following in his test manual:

> No attempt will be made to define precisely just what constitutes a high or low percentile or T-score on any one of the personality variables. It is felt that this is something that each user of the EPPS can determine best for the particular group under observation and in terms of his own objectives.[2]

The reader should be cautioned that raw score means for the EPPS were close for both male and female respondents. There may be an importance attached to the means alone rather than testing for a level of significance.

A T-Test for the Difference Between the Means. In using a t-test for the difference between the means it is necessary to justify it as a statistical inference technique. Generally there are three assumptions in using this t-test. They are:

1. randomization of the sample of subjects.
2. population sample is normal.
3. population variances are homogeneous.

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[2] Allen L. Edwards, Edwards Personal Preference Schedule Manual (New York: The Psychological Corporation, New York, 1959), pp. 10-15.

In certain situations it becomes appropriate to violate these assumptions, and such violations have little effect on the conclusions derived. A departure or violation from normality can make more difference on a one-tailed test of significance than for a two-tailed test. The departure from normality may be violated if the sample sizes are not extremely small.[3] Therefore, Hays[4] states, "if both samples are large the assumptions of normality and homogeneity variances are not important." In this study sample sizes for the acceptors and rejectors ranged between 78 and 112. These values are considered to be large for applying this t-test. Because of this large total sample size, the assumptions of normality and homogeneity of the variances are satisfied.

The design of the study made it impossible to randomly select subjects. There are many educational studies which have not obtained a randomized assignment of subjects. However, such studies employ a statistical model which assumes randomization. Because of this precedence this researcher feels that the use of the t-test for the difference between the means for the acceptors and rejectors is an acceptable technique. This researcher took the liberty of making violations because statisticians indicate that violations may be made.

Steps for determining the t-score are:

1. Estimated standard deviation for the difference between two means

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[3] William Hays, Statistics for Psychologists (New York: Holt, Rinehart and Winston, New York, 1965), pp. 321-322.

[4] Ibid., p. 326.

$$\text{EST. S D Diff.} = \frac{N_1S_1{}^2 + N_2S_2{}^2}{N_1 + N_2 - 2} \qquad \frac{N1 + N2}{N_1N_2}$$

2.

$$t = \frac{\left(M_1 - M_2\right) - E\left(M_1 - M_2\right)}{\text{EST. S D Diff.}}$$

$$t = \frac{\left(M_1 - M_2\right)}{\text{EST. S D Diff.}}$$

The Tables XVIII and XIX report the results of the t-score calculation. T-scores were calculated for both male and female acceptors and rejectors.

TABLE XVIII

T-SCORE CALCULATIONS — DIFFERENCE BETWEEN TWO MEANS FOR FEMALE ACCEPTORS AND REJECTORS

Trait	T-Score	Trait	T-Score
Achievement	.24895321	Deference	-.25465291
Order	5.051728	Affiliation	-3.4575476
Exhibition	5.1913652	Intraception	-5.8478329
Autonomy	2.4402154	Dominance	-8.1821108
Succorance	5.7600040	Nurturance	-3.0223785
Abasement	1.8332391	Aggression	-1.7660646
Change	.50472619		
Endurance	.67782884		

TABLE XIX

T-SCORE CALCULATIONS -- DIFFERENCE BETWEEN TWO MEANS FOR MALE ACCEPTORS AND REJECTORS

Trait	T-Score	Trait	T-Score
Achievement	.76056074	Deference	-2.9686562
Exhibition	1.4739580	Order	-1.9392552
Autonomy	.66697576	Affiliation	-4.4342445
Intraception	1.9852844	Succorance	-5.4571653
Dominance	5.1318278	Abasement	- .3282445
Change	2.5070155	Nurturance	-2.6361218
Endurance	.7034061		
Aggression	4.8376939		

Table XX shows the levels of significance for personality traits as measured by the EPPS for the classified male and female acceptors and rejectors. Therefore this researcher was able to reject his original hypothesis for certain personality traits according to classifications of male and female acceptor and rejector.

Male Acceptor. The original hypothesis was rejected for the traits Intraception, Dominance, Change and Aggression for the male classified as an acceptor. The original hypothesis was accepted for the personality traits--Achievement, Deference, Order, Exhibition, Autonomy, Affiliation, Succorance, Abasement, Nurturance and Endurance.

Female Acceptor. The original hypothesis was rejected for the female acceptor for personality traits--Order, Exhibition, Autonomy and Succorance. The original hypothesis was accepted for the personality traits--Achievement, Deference, Affiliation, Intraception, Dominance, Abasement, Nurturance, Change, Endurance and Aggression.

The Male Rejector. The original hypothesis was rejected for the personality traits—Deference, Affiliation, Succorance and Nurturance. The original hypothesis was accepted for the personality traits—Achievement, Order, Exhibition, Autonomy, Dominance, Abseement, Change, Endurance and Aggression.

The Female Rejector. The original hypothesis was rejected for the personality traits—Affiliation, Intraception, Dominance and Nurturance. The original hypothesis was accepted for the personality traits—Achievement, Deference, Order, Exhibition, Autonomy, Succurance, Abasement, Change, Endurance and Aggression.

TABLE XX

PERSONALITY CHARACTERISTICS OF THE ACCEPTOR AND REJECTOR (MALE AND FEMALE) OF THE NEWER EDUCATIONAL MEDIA

Characteristics of Male Acceptors	Characteristics of Male Rejectors
1. Intraception *	1. Deference **
2. Dominance **	2. Affiliation **
3. Change *	3. Succorance **
4. Aggression **	4. Nurturance **

Characteristics of Female Acceptors	Characteristics of Female Rejectors
1. Order **	1. Affiliation **
2. Exhibition **	2. Intraception **
3. Autonomy *	3. Dominance **
4. Succorance **	4. Nurturance **

* .05 level
** .01 level

Table XXI gives the Edwards definitions for the personality traits identified as significant among the male and female acceptors of the newer educational media.

TABLE XXI

EDWARDS DEFINITIONS[5] DESCRIBING THE PERSONALITY CHARACTERISTICS APPLIED TO THE MALE AND FEMALE ACCEPTORS OF THE NEWER EDUCATIONAL MEDIA

Traits for Male Acceptors

7. int Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others will act.

9. dom Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

12. chg Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

15. agg Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.

Traits for Female Acceptors

3. ord Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.

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[5] Edwards, loc. cit., p. 11.

TABLE XXI Cont.

4. exh Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal advantures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. aut Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others by sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

This researcher considers the following synthesized definition to be appropriate for the personality characteristics of the male and female acceptors of the newer educational media:

The male acceptor appears to be the one who trys to understand why others do things rather than what they do. He wants to be a leader and be regarded as one. He wants to supervise and direct the action of others, to tell others how they are to do their job. He desires to do new and different things, to meet people, to experience the novelty of change in both routine and experiment, and to be able to attack other viewpoints.

The female acceptor appears to be one who likes to have her written work neat and organized, and to have things run smoothly.

She appears to be witty, likes to tell jokes and talk about personal adventures and experiences. She appears to do things which may be unconventional. She likes to criticize those in position of authority. She likes to have others provide help when she is in trouble.[6]

Table XXII gives the Edwards definitions for the personality traits identified as significant among the male and female rejectors.

TABLE XXII

EDWARDS DEFINITIONS[7] DESCRIBING THE PERSONALITY CHARACTERISTICS APPLIED TO THE MALE AND FEMALE REJECTORS OF THE NEWER EDUCATIONAL MEDIA

Traits of Male Rejectors

2. def Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new frendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

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[6] *Ibid.*, p. 11.

[7] *Ibid.*, p. 11.

TABLE XXII Cont.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

Traits of Female Rejectors

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

7. int Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others will act.

9. dom Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

This researcher considers the following synthesized definition to be appropriate for the personality characteristics of the male and female rejectors of the newer educational media:

The male rejector is one who appears to get suggestions from others, follows instructions, and does what is expected of him.

He accepts the leadership of others. He avoids the unconventional. He does things with friends rather than alone, and likes to be helped by others when depressed. He helps others when they are in trouble, by doing small favors for them and by treating them with kindness and sympathy.

The female rejector is one who likes to do things with friends rather than alone. She likes to form new friendships and to understand why others do things. She likes to analyze the motives of others, and she likes to argue her own point of view. She likes to be a leader in groups, and make group decisions, supervise and direct the action of others, and help others when in trouble.[8]

The Dominance trait for female rejectors is difficult to explain. Perhaps she may sometimes need to be a leader.

Conclusion

The acceptor seems to be more dominant, aggressive, and ready to change, whereas the rejector seems to be more receptive to the leadership of others and works well under the friendship and dependence of others.

Chapter VII of this research study will present the summary, conclusions and recommendations.

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[8] *Ibid.*, p. 11.

CHAPTER VII

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The preceding chapters covered the nature of the problem and reviewed the literature. The selection and administration of the various instruments used in the collection of the data has been outlined. This chapter will summarize the major findings of this research and present conclusions from the data analyzed.

Summary.

1. The data was obtained from seven consecutive secondary school sites visited by WAVED. These locations were: Waukesha South Campus High School; Pius XI High School, Milwaukee; Horlick Senior High School, Racine; Monona Grove High School, Monona; Beloit Memorial High School, Beloit; Fennimore High School, Fennimore; and, Tomah Senior High School, Tomah, Wisconsin.

2. Of the total 515 possible population, 253 responded to this research. These 253 respondents break down to 126 male and 127 female teachers.

3. The WAVED Utilization Scale was constructed for the purpose of identifying teachers as acceptors and rejectors of the newer educational media. The users and nonusers of the WAVED demonstration were assigned a level of use based on a 1-5 continuum, from no use to the highest level of use.

4. The Kelley Audiovisual Attitude Scale was selected to determine the over-all attitude posture of the respondents towards audiovisual media.

5. The Edwards Personal Preference Schedule was the instrument selected to measure the personality traits of the respondents. The Heterosexuality dimension was deleted because of possible rejection of the entire scale.

6. The Audiovisual Coordinator at six locations completed the Audiovisual Building Coordinator Scale. The principal completed this scale at the seventh location because there was no assigned audiovisual building coordinator. This scale was developed to obtain additional data about the acceptor and rejector of the newer educational media.

7. This research was voluntary, therefore it was selective because only those who desired to participate in the research did so.

8. The t-test for the difference between two means was used to calculate t-scores for the personality traits of those teachers classified as the acceptors and rejectors of the newer educational media. Admittedly, this researcher has violated certain basic assumptions required for using this t-test. These violations are sanctioned by statistical experts. A two-tailed test was used to determine significance at the .05 and .01 level.

Conclusions.

1. There were 78 rejectors, 63 average acceptors, and 112 acceptors of the newer educational media based upon the WAVED Utilization Scale.

2. There were 54 male and 58 female acceptors of the newer educational media. There were 37 male and 41 female rejectors of the media.

3. Respondents at six of the locations showed a positive mean change of attitude toward audiovisual media. This change of attitude might be directly attributed to the influence that the WAVED unit had at these six sites. The faculty at the seventh location showed a negative mean change of attitude toward audiovisual media.

4. There appeared to be a positive mean change of attitude toward audiovisual media for the age groups between 21 and 60. There was a negative mean attitude change for the 61-70 age group.

5. There were substantial numbers of both acceptors and rejectors at school sites located in larger metropolitan areas. There were more acceptors than rejectors among faculties at school sites located in rural areas.

6. There were more acceptors than rejectors in the subject areas of English, foreign language, science and history-social studies. There is an indication that English teachers may be using more audiovisual materials than ever before.

7. There was a negative mean attitude change towards audiovisual media for respondents after 30 years of teaching experience. One hundred and thirty-seven teachers having had 0-9 years of teaching experience showed a higher mean attitude change than did those with 10-49 years of teaching experience.

8. Male respondents to the Kelley Audiovisual Attitude Scale had a higher postattitude and change of attitude means than did female respondents.

9. There was an over-all positive mean change of attitude for both males and females who responded to this research.

10. There was a significant difference between certain personality traits for male and female acceptors and rejectors. The null hypothesis was rejected for the following male acceptor personality traits: Intraception,* Dominance,** Change* and Aggression.** The null hypothesis was rejected for the following female acceptor personality traits: Order,** Exhibition,** Autonomy* and Succorance.** The null hypothesis was rejected for the following male rejector personality traits: Deference,** Affiliation,** Succorance** and Nurturance.** The null hypothesis was rejected for the following female rejector traits: Affiliation,** Intraception,** Dominance** and Nurturance.** A t-test for the difference between two means for two groups (acceptors-rejectors) was calculated for each trait. These traits were found to be significant at .05 and .01 level of confidence using a two-tailed test of significance.

Recommendations. The following are the recommendations that seem to be appropriate for possible future study and research:

1. Since there was a significant grouping for certain inner personality traits among teachers classified as acceptors and rejectors,

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Level of Significance:

* .05, ** .01

it would be interesting to continue to use the Edwards Personal Preference Schedule in order to replicate the results obtained in this study.

2. It is recommended that additional studies be undertaken using a randomized population rather than using a selected population as done in this study.

3. It is recommended that further refinement be considered for the exploratory instruments used in this study. It may be possible to develop a system that might combine the scores of these instruments in order to identify the acceptor and rejector of the newer educational media.

4. It is also recommended that additional refinement and study be given to the WAVED Utilization Scale. The levels of faculty utilization within a school building may be a key factor in the identification of acceptors and rejectors within that school building.

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APPENDIX A

WISCONSIN AUDIOVISUAL EDUCATION DEMONSTRATION

INITIAL QUESTIONNAIRE

IMPORTANT -------------------- Write in last 6 digits of your Wisconsin driver's license (if you have no driver's license please use home phone number) ____________________

WISCONSIN AUDIO-VISUAL EDUCATION DEMONSTRATION
(WAVED)

A. BACKGROUND DATA:

Name ______________________ (last) (first)

Age: 21-30; 31-40; 41-50; 51-60; 61-70

School ______________________

Subject Speciality ______________________

Grade Level _____ Prep. Period _________

Administrative or additional responsibility

____

Total Years of Experience __________

Number of Audiovisual Courses Taken ______

Type of AV Course(s) __________

B. TEACHING AREAS DURING STAY OR CONCEPTS NEEDING DEVELOPMENT:

List those teaching areas you will be covering during WAVED'S two week stay. If you think these areas do not relate to the use of media indicate other difficult teaching areas you would like to work on during our stay (if there isn't sufficient room, please use the back of this sheet.)

____

____

____

____

____

____

C. AUDIOVISUAL EQUIPMENT AND MATERIALS:

You will have opportunities during WAVED's two week stay to use many of the devices and materials listed below. Please respond to the numbered categories as requested below according to your teaching experiences in the past year. (If you had no teaching experience last year, please respond according to your anticipated teaching for this year.)

1. Not aware and not interested.
2. Not aware but interested.
3. Aware but not interested.
4. Aware and interested but have not
5. tried it.
5. Tried but not convinced of its usefulness.
6. Tried and convinced of its usefulness.

	1	2	3	4	5	6
Motion Picture Film Equipment						
16mm sound projector						
8mm silent projector						
8mm sound projector						
Photographic Equipment						
16mm camera or 8mm camera						
35mm slide camera						
Darkroom developing equipment						
Copy stand						

C. AUDIOVISUAL EQUIPMENT AND MATERIALS:

1. Not aware and not interested.
2. Not aware but interested.
3. Aware but not interested.
4. Aware and interested but have not tried it.
5. Tried but not convinced of its usefulness.
6. Tried andconvinced of its usefulness.

	1	2	3	4	5	6
Still Projection Equipment						
Manually operated filmstrip and/or slide projector						
35mm remote control slide projector and/or filmstrip projector						
Combination tape w/slide projector						
Filmstrip and slide previewer						
Opaque projector						
Overhead projector						
Presentation Devices						
Chalkboard						
Magnetic board						
Bulletin board						
Flannel board						
Hook and loop board						
Study display						
Wall map - globe						
3 Dimensional Devices						
Models						
Mock-ups						
Dioramas						
Audio Devices						
Telelecture						
Tape recorder or port. batt. types						
Language lab						
Record player						
Radio						
Programmed Instruction Devices						
Teaching machine						
Programmed textbook						
Television Devices						
Broadcast television						
Closed circuit TV						
Video Tape recorder						
Specialized Devices						
Rear screen projection devices						
Transparency Materials						
Commercial overhead transparencies						
Teacher-made overhead transparencies						
Lettering Materials						
Mechanical lettering devices						
Preparing-Preserring Materials						
Laminating materials						
Dry mounting flat pictures						

APPENDIX B

KELLEY AUDIOVISUAL ATTITUDE SCALE

NOTE: Write in the last 6 digits of your Wisconsin driver's license (if you have no driver's license please use your home phone number)____________________

UNIVERSITY OF WISCONSIN
BUREAU OF AUDIO-VISUAL INSTRUCTION
AUDIO-VISUAL EDUCATION DEMONSTRATION

The following list of statements about the audiovisual field is a part of the investigational procedure of the AVED (Audio-Visual Education Demonstration) Project which has been assigned to your school.

DIRECTIONS: Place a check mark in front of only those statements that you feel express your feelings toward the use of audiovisual materials. THIS TEST IS VALIDATED AS IT IS - DO NOT MAKE ANY CHANGES OR ADDITIONAL NOTATIONS.

1.____Audiovisual materials are a wonderful aid to the classroom teaching.
2.____Children retain longer the material that has been presented visually.
3.____The use of audiovisual materials makes for high levels of student interest.
4.____Audiovisual materials are useful in correcting erroneous concepts.
5.____Films and filmstrips are usually quite accurate as far as content is concerned.
6.____Obtaining the audiovisual materials that I want is usually quite a simple procedure.
7.____Films are usually in good repair when they are received.
8.____Audiovisual materials can be useful on occasion.
9.____Audiovisual materials are available when they are needed.
10.____The good and bad points about audiovisual materials balance one another.
11.____My use of audiovisual materials has been limited though I would use more of them if I could be sure of their value.
12.____I have nothing against the use of these materials, but I wonder just how useful they really are.
13.____It might be difficult for the student to handle abstract ideas if his experiences are limited to audiovisual materials.
14.____My instructors in college did not use audiovisual materials; why should I?
15.____Previewing films and filmstrips is always a chore.
16.____It is too much bother to request the materials far enough in advance to be sure of getting them when you want them.
17.____It is extremely difficult to locate appropriate audiovisual materials.
18.____Students in higher grades are able to handle more abstract materials and do not need audiovisual teaching.
19.____It takes too much time to use audiovisual materials in the classroom.
20.____These materials seldom have much to offer in the classroom setting.
21.____Teachers are just entertaining the class when they use audiovisual materials.
22.____Learning how to use audiovisual materials is a complete waste of time.

23. CHECK ONE: ____Teacher ____Administrator ____School Bd. Member

24. CHECK ____Elementary ____Junior High ____Senior High

APPENDIX C

AUDIOVISUAL BUILDING COORDINATOR RATING SCALE

WAVED Research
Perception Scale - Acceptor/Rejector

IMC Director ______________________________

School ____________________________________

Directions: Check appropriate frequency

Faculty Roster	never 1	2	3	4	5	6	very frequently 7

APPENDIX D

WISCONSIN AUDIOVISUAL EDUCATION DEMONSTRATION -- DIRECTION SHEET FOR COMPLETING THE EDWARDS PERSONAL PREFERENCE SCHEDULE

WISCONSIN AUDIO-VISUAL EDUCATION DEMONSTRATION

DIRECTIONS:

Scale - The Edwards Personal Preference Schedule

1. This scale is so designed that you need to make a choice between a pair of statements about things you may or may not like, about ways in which you may or may not feel at the present time.

2. If both statements describe the way in which you feel at the present time, choose the one which you think is more characteristic of you.

3. Complete all numbered items of the Edwards Personal Preference Schedule so that this scale will be valid. However, please do not answer those items which have a black dot covering the item number. There are 29 such deleted items. These 29 items are not relevant for this research.

4. There is no fixed time limit on this scale. However, Dr. Edwards feels that it takes an average of 50 minutes to complete this scale. Each individual, of course, will differ in the amount of time it takes to complete this scale.

5. It is suggested that you take this scale home and complete it during your spare moments or at a time when there are no interruptions during the school day. If you become frustrated when answering, set it aside for awhile and then go back to it.

6. Do not dwell upon each item - make a rapid choice according to the way you feel between the pair of statements given - and go on to the next - etc.

7. Also read the directions given on the front page of the Edwards Scale.

Edwards Personal Preference Schedule - Answer Sheet

1. In the space provided, please write the last six digits of your Wisconsin driver's license; if you have no license use your home telephone number.

2. When answering, please be sure that the Edwards Personal Preference Schedule item number corresponds with the number on the Edwards Answer Sheet.

3. Use the #2 pencil provided to blacken the space for answering A or B choices.

Please place the following materials in the manila envelope. Please return all of these materials since they will be used for further measurement at other WAVED locations:

1. Scale - The Edwards Personal Preference Schedule
2. Edwards Answer Sheet
3. #2 pencil

APPENDIX E

LETTER TO WAUKESHA FACULTY REQUESTING THEIR PARTICIPATION IN RESEARCH

UNIVERSITY EXTENSION

The University of Wisconsin
P. O. Box 2093
1327 University Avenue
Madison, Wisconsin 53701

Wisconsin Audio-Visual Education Demonstration
Bureau of Audio-Visual Instruction

October 30, 1968

Faculty Member
South Campus High School
Waukesha, Wisconsin

Dear Colleague:

As you know, the Wisconsin Audio-Visual Demonstration Unit was located at your school during the weeks of October 14-25, 1968. As part of the agreement to locate the Unit at your school, we are requesting your assistance in obtaining credible research data for the further improvement of classroom teaching. This research is deemed both worthy and important in helping to educate effectively the youth of the next generation. This research will investigate attitude and personality in using educational media.

After much consideration, we decided to ask your cooperation on an individual convenience basis, rather than requesting your presence at a faculty meeting after school hours. We would appreciate it if you would complete the following materials enclosed in the sealed packet:

1. Scale - Statements About the Audio-Visual Field
2. The Edwards Personal Preference Schedule with Answer Sheet (please use the special #2 pencil provided for marking the Edwards Answer Sheet)

Please be assured that this investigational procedure will not reflect you personally as an individual in this research. This is the reason why we have requested your driver's license number; if no license, your home telephone number, as a coding system for these materials.

Before completing these materials, please read carefully the separate direction sheet as well as the directions on the two scales. You will note as you take the Edwards Schedule that we have deleted 29 items since they have no direct importance to this research. Being on an individual basis, it is most important that you cooperate in order for us to obtain significant results on these scales.

We would greatly appreciate it if you would return all of the enclosed materials on or before Monday, November 4, 1968. Prior research has determined that these materials are most effective when answered one week following the WAVED Demonstration Unit.

If you should have any questions regarding these materials, please contact IMC Director Ray Jensen, who will in turn contact me for a response.

Your cooperation and assistance will be appreciated.

Sincerely yours,

Alfred D. Grant

Alfred D. Grant
Research Coordinator
Wisconsin Audio-Visual
Education Demonstration

ADG/dl

APPENDIX F

LETTER REQUESTING FACULTY TO FILL OUT THE EDWARDS PERSONAL PREFERENCE SCHEDULE

UNIVERSITY EXTENSION

The University of Wisconsin
P. O. Box 2093
1327 University Avenue
Madison, Wisconsin 53701

Wisconsin Audio-Visual Education Demonstration
Bureau of Audio-Visual Instruction

Our tabulation of the Wisconsin Audio-Visual Education Demonstration Research reveals that your name was not checked off in the office as having completed the Edward's Personal Preference Schedule. We are in desperate need of your assistance in filling out this questionnaire in order to make our data complete. The Edward's Scale helps us to look at various personality traits of the many teachers who are teaching at the school sites that were visited by the WAVED Units. This is being done, as you may already know, in order to attempt to correlate attitude and personality with the use of educational media.

We are not interested in, nor is there any need to reveal particular identities in this research. Our data will reflect only tabulated scores which will be fed into a computer for analysis. It cannot possibly hurt you, or anyone, but it may help you and others in your future teaching.

Sometimes we feel that we are asking unreasonable tasks of teachers. Perhaps you find yourself with this same feeling when you ask your students to accomplish certain tasks. Unfortunately however, there is no other way to gather this data. We do need your help and cooperation. Please help us accomplish the "Mission Impossible" by completing and sending us your missing Edward's answer questionnaire. We know it forces difficult choices, but we also know that it yields important information if it is completely filled in. We have received complete materials from many of your fellow faculty members - we need yours!

Your assistance is appreciated by the WAVED staff. It would also be appreciated if you could return the Edward's Answer Sheet and booklet before February 26, 1969. We promise to forward to you a summary of our findings.

Sincerely,

Alfred D. Grant

Alfred D. Grant,
Research Coordinator
Wisconsin Audio-Visual
Education Demonstration

ADG:drh

APPENDIX G

REASONS FOR NOT PARTICIPATING IN WAVED RESEARCH AT WAUKESHA

1. There were nine week examinations and the Teachers' Convention was forthcoming the next week.

2. The Edwards scale was too frustrating to complete; it was too long. There was the feeling that the statements on the Edwards scale were not relative and appropriate for teachers.

3. There were a few teachers who indicated that they already had too much work to do and that such research was outside of their regular duties. There were a few teachers who mentioned that they had too many outside duties and obligations.

4. There were some teachers who felt that the Edwards scale invaded their privacy.

5. There was one teacher who refused to use a "Wallace" no. 2 pencil provided in the packet. This testing occurred at the time of the presidential campaigning. The pencil was a standard brand pencil known as the "Wallace Conquest"!

6. There was one complaint made to the principal about this research being conducted at the school. The teacher tore up the Edwards scale and threw it in the wastebasket.

7. There also seemed to be a concern about the use of the respondent's driver's license number on research materials. There was a suspicion that the researcher could identify a person by consulting with the Division of Motor Vehicles, Department of Transportation.

8. It was apparent that the faculty expected to evaluate the WAVED unit only; they did not expect to be involved in research.

9. There had been approximately four studies undertaken by the University of Wisconsin at this school location prior to WAVED's arrival.

10. There were several staff members who suggested that a better communications technique be initiated in order to inform faculty of the type of research project.